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Vol. LXXXV, No. 15 OCTOBER 13, 1927 Per annum $4.00 Per Copy 10 Cents

ZELLSTOFFFABRIK WALDHOF

MANNHEIM-WALDHOF
GERMANY

Mills at	Daily Capacity
Mannheim-Waldhof	800 Tons
Tilsit (East Prussia)	Bleached
Ragnit (East Prussia)	and Unbleached
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Registered Trade Mark

Sole Agents for the U. S. A.

CASTLE & OVERTON

INCORPORATED

200 FIFTH AVENUE, NEW YORK

KENWOOD

WOOL PRODUCTS

For BETTER Running Performance, HIGHER Water Removal, QUICKER Functioning and LONGER Life, use

KENWOOD TANNED FELTS

These Felts are treated by PATENTED chemical processes to COUNTERACT the deteriorating effects of water, alkali and acid.

The term "TANNED" refers to the treatment and NOT to the color.

KENWOOD BULLETIN No. 29

containing an explanation of this tanning treatment and its results will be mailed on request.

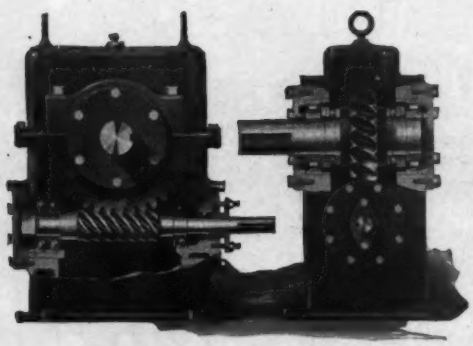
F. C. HUYCK & SONS

KENWOOD MILLS, ALBANY, N. Y.

KENWOOD MILLS LTD., ARNPRIOR, ONTARIO

Entered as second class matter August 13, 1925, at the Post Office at East Stroudsburg, Pa., under Act of Congress of March 3, 1879. ESTABLISHED 1872 FIFTY-SIXTH YEAR Published every Thursday by the Lockwood Trade Journal Co., at 34 N. Crystal St., E. Stroudsburg, Pa. EXECUTIVE AND EDITORIAL OFFICES: 10 EAST 39th STREET, NEW YORK CITY. CHICAGO: 123 West Madison Street, Chicago, Ill.

You Would Appreciate This Drive on Your Agitators



The standard type AH Cleveland unit is designed to carry an overhung sprocket or pinion on its gear shaft without an outboard bearing. Nevertheless, all shafts are mounted in anti-friction bearings—a necessity for a long-lived worm gear.

It consists of a standard type AH Cleveland Worm Gear Reduction Unit, mounted on a substantial baseplate with the driving motor and connected to the agitator shaft through supplementary spur gears.

The arrangement was planned by a leading firm of paper mill engineers and is one of seven drives recently installed in a large new Canadian mill.

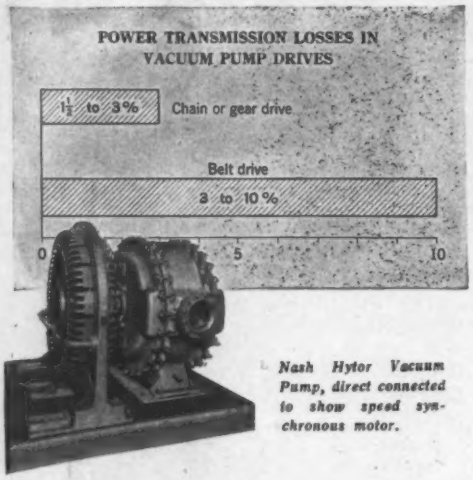
Investigate the Cleveland worm gear drive if you want low maintenance costs and uninterrupted service. Send for bulletin 106.

- CANADIAN AGENTS -
Peacock Bros., Ltd., 1605 Delorimier Ave., Montreal, P. Q.

CLEVELAND WORM & GEAR COMPANY

3291 EAST 80TH STREET CLEVELAND, OHIO

You can avoid these power losses by direct driven Nash pumps



Nash Hytor Vacuum Pump, direct connected to show speed synchronous motor.

Experience shows that the power transmission losses for a chain or gear driven vacuum pump are generally from 1½ to 3%. And from 3 to 10% for a belt drive.

The one way to avoid these losses is to install Nash Hytor Vacuum Pumps, which ***can be direct driven by slow speed synchronous motors.***

The efficiency of these synchronous motors, in the smaller sizes, is practically equal to that of the high speed induction motor, neglecting belt losses. In the larger sizes, 300 h. p. and higher, the efficiency of the synchronous motor is higher. This statement takes into account the losses in the motor driven exciter which is supplied with the synchronous motor.

NASH ENGINEERING COMPANY
164 Wilson Road S. Norwalk, Conn.

New England Representative
Mr. G. H. Gleason, Nottingham Bldg., Copley Square, Boston, Mass.

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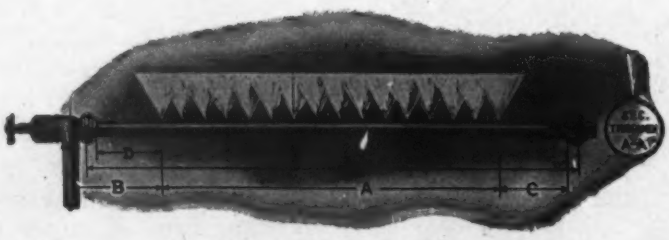
Mr. T. H. Savery, Jr., 80 E. Jackson Blvd., Chicago, Illinois.

Nash Hytor
VACUUM PUMPS AND COMPRESSORS

THE "RAINSTORM" SHOWER PIPE



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THE SMITH & WINCHESTER MFG. CO.
SOUTH WINDHAM, CONN.

ESTABLISHED 1828

A Complete Line of Paper Bag Making Machinery

BUILDERS OF DEPENDABLE MACHINERY FOR THE PAPER MILL

The Undercut Trimmer

Die Cutting Presses

The Thief-in-the-Night in Industrial Plants

An SO_2 burner when inefficiently working is quietly robbing your plant.

You need a Watchman to guard against this constant menace to your profits.

Engelhard electrical gas-analyzing and recording equipment is that guard, alert, reliable.

Engelhard Gas Analyzer (*upper circle*) electrically analyzes and registers the amount of SO_2 produced within .03 of 1%.

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Burning temperatures can be recorded on the same chart, by connecting the recorder with a pyrometer. Such a check secures proper combustion.

Lasting and unfailing accuracy with simple, rugged construction is the result of 30 years of research by Engelhard's instrument experts.

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Send me illustrated catalog of SO_2 Analyzer and Type S Recorder

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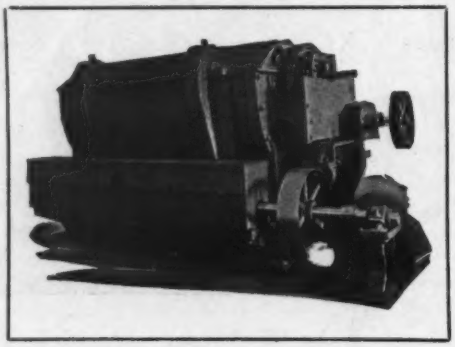
1885



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ROTARY SCREEN

"Moore & White" Screens produce quality paper whether used on Tissues, Kraft, Roofing Manilas or Book Paper. Lumps and slime spots are eliminated. Breaks on paper are thus prevented and continuous operation is assured.

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CATALOG ON REQUEST

1927

There is Only One Standard of Quality in the Manufacture of

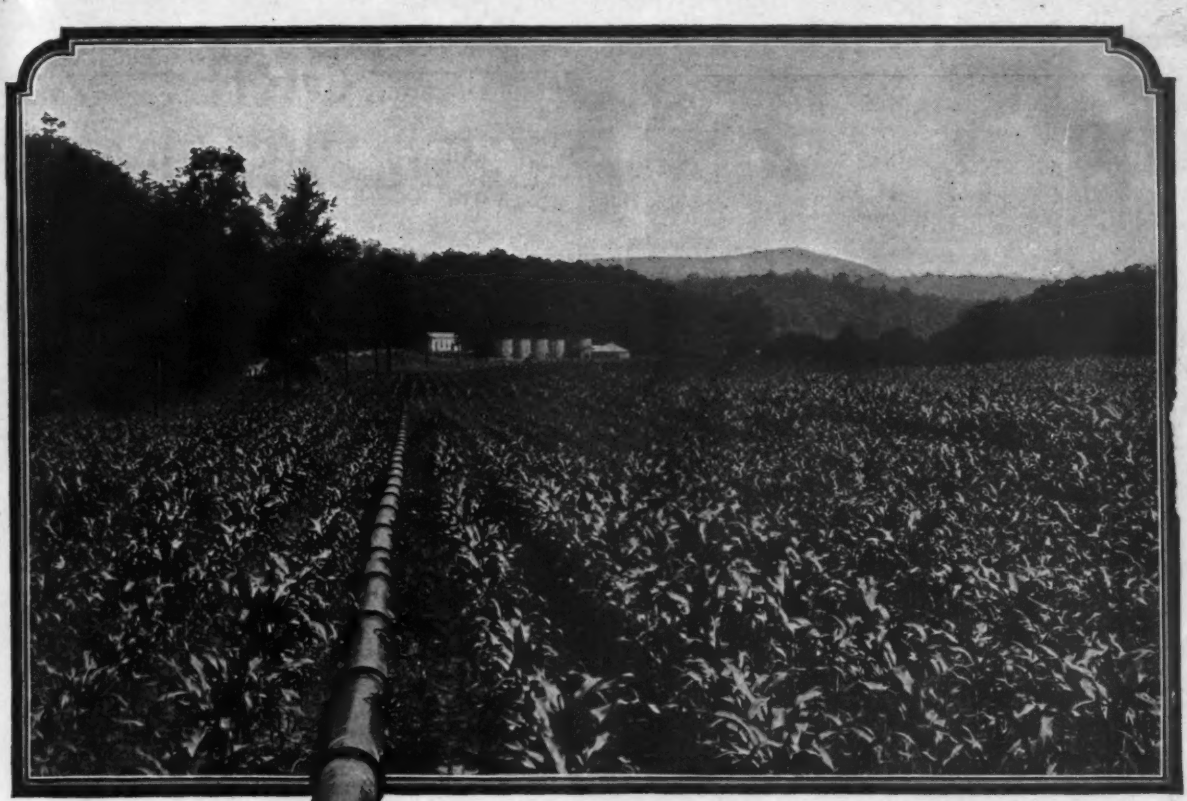
DIAMOND ALKALIES

ALKALI

There Are Convenient Warehouse Stocks Near You

Manufactured from the purest raw materials obtainable, processed in completely modern plants, subjected to exacting laboratory tests at every stage of manufacture, Diamond Alkalies are a constant assurance that quality standards shall be maintained.

DIAMOND ALKALI COMPANY · PITTSBURGH, PA.



for high pressures

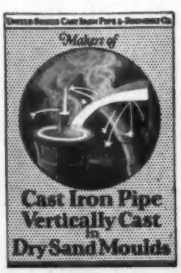
use deLavaud Centrifugal Cast Iron Pipe

THE high tensile strength of deLavaud centrifugally cast Cast Iron Pipe makes it ideal for pressure lines.

Due to the density of the iron cast—by the deLavaud centrifugal method—there is no seepage.

The line illustrated here was tested at 260 lbs. pressure and is subjected daily to a pressure of 230 lbs. per sq. in.

Write for special literature covering the manufacture, specifications and use of deLavaud centrifugal pipe.



United States Cast Iron Pipe and Foundry Company

General Offices:

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Cleveland: 1150 East 26th Street
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San Francisco: 3rd & Market Sts.
Pittsburgh: 6th & Smithfield Sts.
Dallas: Akard & Commerce Sts.
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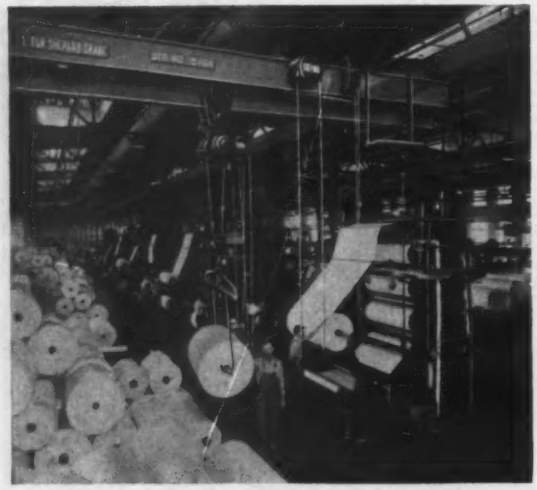


Shepard Floor operated Motor Driven Traveling Hoist on Shepard Underhung Single I-Beam Crane.

Saves $5000 in Labor,

utilizes waste storage

R. S. Lowry, Electrical Engineer of Champion Coated Paper Co., Hamilton, Ohio, says:

"In our plant—the largest in the world manufacturing coated paper—we have used Shepard Electric Cranes and Hoists for several years with much satisfaction.

"We use 3 Shepard floor-operated traveling cranes over paper machines. Two have two 5-ton hoist trolleys mounted on the span; the third has two 10-ton trolleys on the span. After the paper machines are installed, the cranes are used only to handle repair work, remove finished paper rolls, and do miscellaneous work on the mill floor.

"A cage-operated 1-ton Shepard Electric Crane with a 30-ft. span stores pulp as it is unloaded from cars. For 5 years this work was done by hand, but we were using only half our storage warehouse space because the men could not pile the pulp higher. The Shepard Crane has increased the utilized space in the storeroom 100%.

"4 men are now doing what it formerly required 12 to do, so we are saving 8 men. As this work occupies the men half time, we are saving $5000 a year in labor. We also save demurrage on cars unloaded by the crane.

"3 other Shepard cranes, of 10 and 20-ton capacity, are used over paper machines for installing work, making repairs, and removing finished paper rolls."

The above is one of a number of paper mills which speed up handling by using Shepard Electric Cranes and Hoists. Our engineering department is at your service.

SHEPARD ELECTRIC CRANE & HOIST CO.

378 Schuyler Avenue,
Montour Falls, N. Y.

Branches in principal cities.
Largest Manufacturers of Electric Hoists in America

SHEPARD
ELECTRIC CRANES & HOISTS

ORR ENDLESS FELTS

The Orr felts are recognized as most important factors in the production of more and better paper at a lower cost per ton.

These felts are manufactured from wools carefully selected, covering a large experience in manufacturing.

Needless to say they insure satisfactory service.

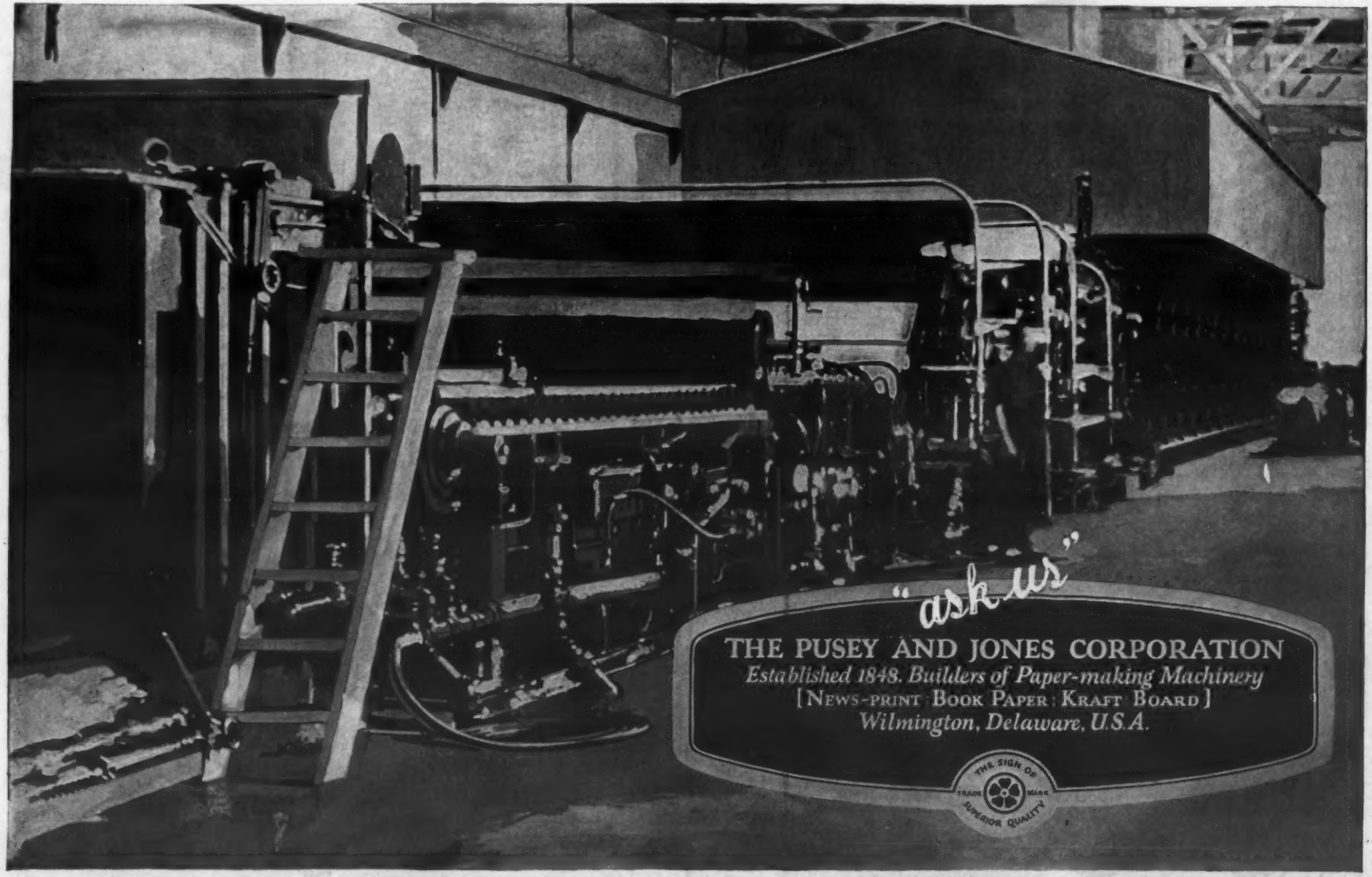
It is possible to weave these felts Endless up to eighty-six feet.

We request a trial, which will prove to your advantage.

Samples of grades required sent upon request.

The ORR FELT & BLANKET COMPANY

Piqua Ohio


"ask us"
THE PUSEY AND JONES CORPORATION
Established 1848. Builders of Paper-making Machinery
[NEWS-PRINT BOOK PAPER KRAFT BOARD]
Wilmington, Delaware, U.S.A.
THE SIGN OF TRADE MARK SUPERIOR QUALITY

Illustrating one of the two 168-inch Bond Paper Machines, designed and built in 1926 by The Pusey and Jones Corporation for Fraser Paper, Limited, Madawaska, Maine

Entire contents of this advertisement copyrighted 1927 by The Pusey and Jones Corpora tion, Wilmington, Delaware, U. S. A.

Uncle Jake says—

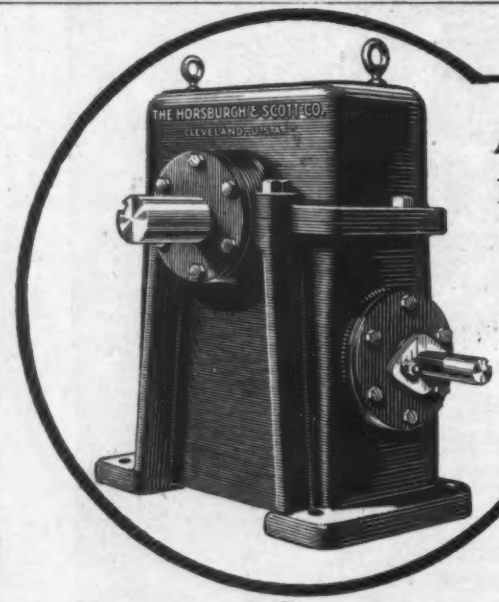
"The employee who insists that he is indispensable to the business is the first one to be laid off when the dull season arrives."

We do not feel that we are indispensable to your business, but we do feel that our

KVP BOND

is a wonderful aid to any business using print or writing papers. The cut, the written or printed words, stand out on it so clearly as to give distinction to the message.

KALAMAZOO VEGETABLE PARCHMENT CO. KALAMAZOO, MICH.



A BETTER SPEED REDUCER

RUGGED SILENT OIL TIGHT

Horsburgh & Scott Worm Gear Speed Reducers run silently, deliver a smooth flow of power and have a long life. They operate in abrasive dust and under extremes of temperature.

DRIVE IT WITH GEARS

The Horsburgh & Scott Co.

5114 Hamilton Ave. *"Gear Makers Since '89"* Cleveland, U. S. A.

Gears for Every Industrial Purpose—Worm—Bevel — Herringbone — Spur — Spiral — Hardened Heat Treated Gears—Non Metallic Gears and Pinions

Roofs That Mill Men Forget

LIFE is just one patch after another and replacement time comes all too soon for many mill roofs. Why expensive patching and replacements—why not remove the cause? The ordinary untreated mill roof is insufficient. There must be additional protection to stave off the minions of rot.

"Wolmanized" Lumber provides a roof that mill men can forget. It's there to stay—and stay it does for twenty years or more.

Have you ever thought of roof timber in terms of ***years of service?*** True, "Wolmanized" Lumber may cost more—but in first cost only. Its economy is evident.

Let us show you in plain facts and figures just what we can save you.

Write!

AMERICAN WOLMANIZED LUMBER COMPANY

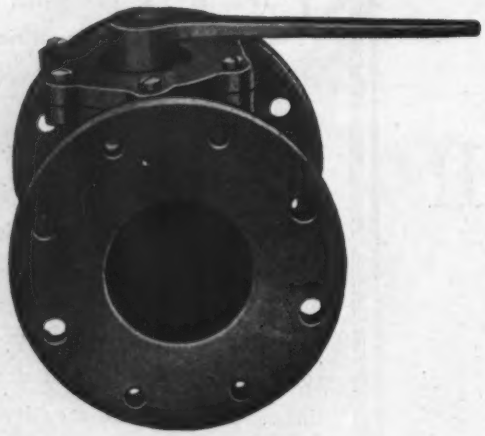
7 So. Front St., Elizabeth, N. J.

"Wolmanized Lumber Does Not Decay"

A few facts about "Wolmanized" Lumber

1. The characteristics of the wood remain unchanged.
2. The preservative "stays put" due to unusual fixation qualities.
3. A lower-cost lumber may oftentimes be specified.
4. No discoloration that affects painting.
5. Can be painted, varnished or stained.
6. Fire-retardant.
7. Treating operation flexible according to individual requirements.

"Repeat Orders Are the Best Indorsement"



Built for Your Purpose!

THE Barker Quick Opening Stock Valve meets all the requirements you place on it—with features which all mill men have been seeking.

Simplicity and strength are both present. This valve is built on an entirely different principle from other gate valves, in that a straight bronze plug is used instead of a gate, with a cast-iron body designed to reduce plugging to a minimum. Has no bonnet to leak. Valve is furnished with a long handle to open and close, with sufficient leverage to shear off ordinary obstruction without using a piece of pipe. Valves may be placed in any position.

The Barker Quick Opening Stock valve **does not require cleaning** after each different color or grade of stock has passed through. The many repeat orders being received by us are the best proof of satisfaction.

Install this valve and note the difference

GREEN BAY BARKER
Machine & Tool Works
Green Bay Wisconsin
"Machinery Manufacturers"

A History of Paper Manufacturing in the United States

By
LYMAN HORACE WEEKS

Author of "An Historical Digest of the Provincial Press," "Legal and Judicial History of New York',' "Prominent Families of New York," "Book of Bruce," etc., etc.

A comprehensive story of the paper making industry in this country from its small beginnings in 1690. All the material facts gathered into one complete, compact narrative. Illustrated.

$3.00 net—
Order from the publishers

LOCKWOOD
TRADE JOURNAL CO.
10 East 39th St.
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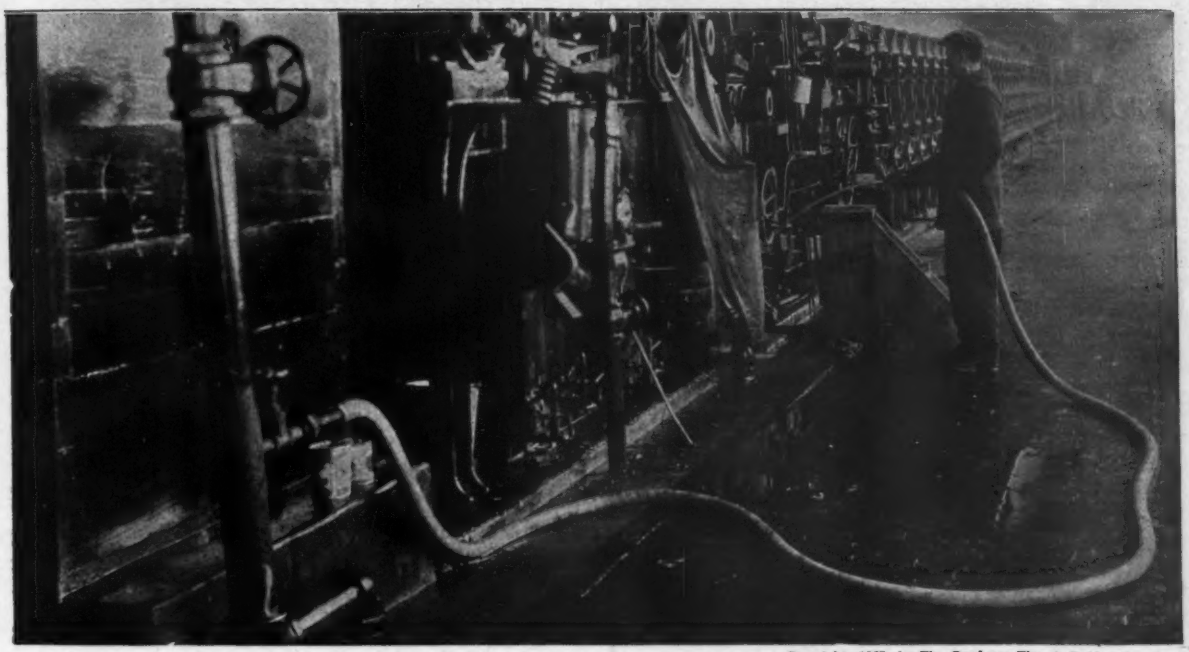
A GREAT HOSE FOR YOUR MILL



Copyright, 1927, by The Goodyear Tire & Rubber Co., Inc.

An exceptionally good hose for such hard service as washup work in paper mills is Goodyear Style M Sanitary Hose. Note its special merits for your industry:

It has a non-flaking tube—no rubber flaking off and spoiling the batch.

It is made rigid, providing special resistance to hard use, and even the abuse that hose frequently gets being dragged over the concrete floors and around machines and pillars.

It has a tapered nozzle built integral with the body, when required, to provide a reduced stream at greater pressure, and to permit a fan-shaped play rather than a direct full force against the screens

Like all Goodyear products for the special use of the paper industry, Goodyear Style M Sanitary Hose is specified to this duty by the G. T. M.—Goodyear Technical Man. You will find its advantages in efficiency, durability and long, economical life will pay you well.

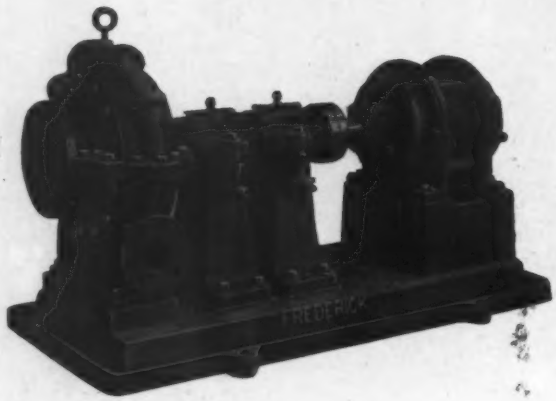
GOODYEAR HOSE
Water, Steam, Washup, Fire and Mill
TRANSMISSION BELTS
Thor, Goodyear, Klingtite, Glide
CONVEYOR BELTS
PACKING—*Asbestos, Rubber Sheet* **PUMP VALVES**

Goodyear Means Good Wear

GOODYEAR

SANITARY HOSE

FREDERICK CENTRIFUGAL PUMPS



Where Only the best Will Do

The opening of the Holland Tunnel this fall is said to mark a new era in traffic handling. The Holland Tunnel consists of a pair of gigantic tubes running under the Hudson River, to accommodate vehicular traffic between Jersey and Manhattan. It cost $49,000,000.00 to build. Pumps were needed to eliminate seepage and also to guard against emergency leakage in this tunnel. For such important service, only the best pumps obtainable were good enough. Frederick Pumps were chosen. Twenty-two Frederick Pumps have been installed to safeguard the largest vehicular tunnel in the world and one of the greatest engineering feats of the age.

There Is a Type of Frederick Pump Suitable to Your Needs

The Frederick Iron & Steel Company
FREDERICK, MARYLAND

In Canada:—
Dominion Engineering Works, Ltd., Lachine, Que.

Hot galvanized for paper mill work

Taylor Spiral Riveted Pipe for pulp mills and paper mills is hot galvanized. The pipe with flanges attached is completely immersed in the bath. The metal drains off slowly. There is no wiping or thinning.

All Taylor pipe is made of copper-bearing steel. This greatly increases its resistance to rust and corrosion. The pipe material itself and its protective coating (galvanizing or asphalt according to the service) are twofold assurance of many years of service.

Because of its lightness, Taylor Pipe can be handled and put in place at a lower cost than more cumbersome pipe. Because of its riveted spiral seam it has the strength of much heavier pipe.

The sizes are 3 to 42 inches, with lengths as required.

At your request we will send you catalogs on Taylor Spiral Riveted Pipe and Taylor Forged Steel Flanges.

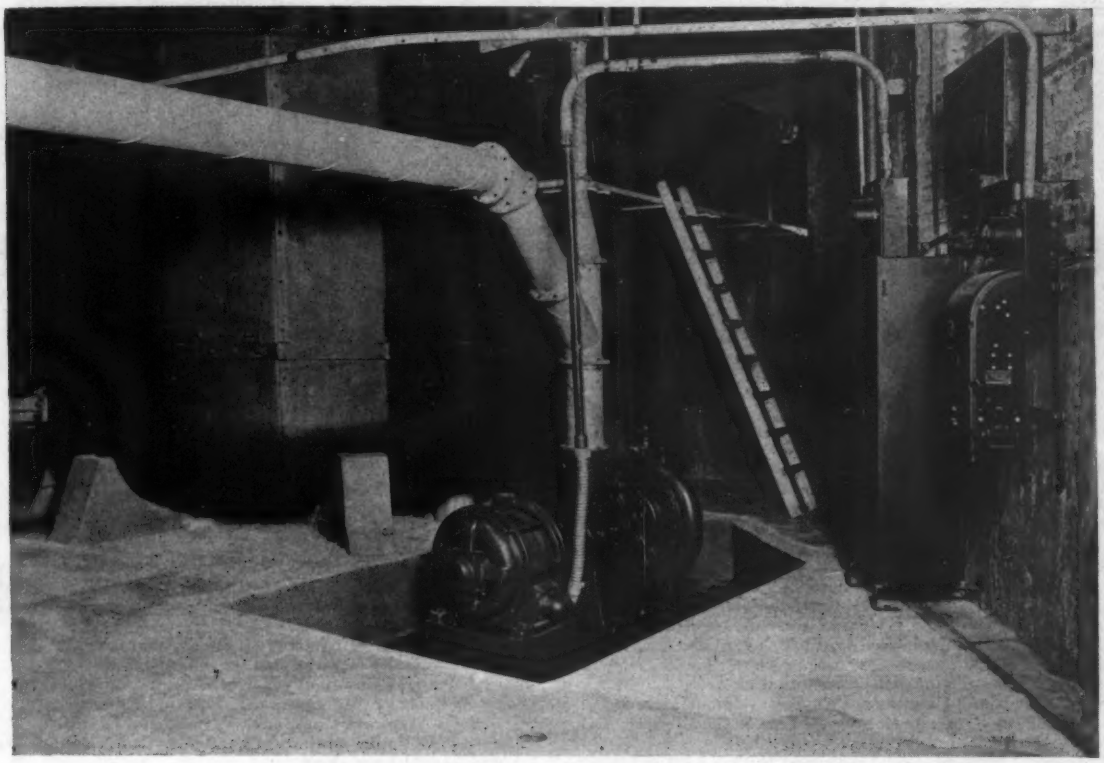
American Spiral Pipe Works

Main Office and Works:
Chicago, Ill., P. O. Box 485

New York Office: 50 Church Street

TAYLOR *Spiral Riveted* PIPE

P. T. J. 10-13 Gray



This Warren Stuff Pump

is delivering stock to the beaters in record time.

Its performance is typical of many other Warren installations which are giving pulp and paper makers a new conception of the efficiency and continuous dependability with which stock up to 5% and greater consistency may be handled.

Ask us to show you what the Warren Stuff Pump can save you when handling your particular kind of stock. Write for Bulletin.

WARREN

Warren

Steam Pump Company, Inc., Warren, Mass.

Boston
Atlanta
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Chicago
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SUPERIOR

ROSIN SIZE

PRODUCTS

ROSIN SIZE

WAX AND SPECIAL WATERPROOFINGS

FOAM KILLERS

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SOAP POWDER

VEGETABLE TALLOW

CHEMICALS AND SERVICE

Twenty-two SUPERIOR Plants

The Most Extensive Organization of Its Kind in the World

Producing, Distributing and Servicing Chemical Products for the Pulp, Paper and Coating Trades

"There Is a SUPERIOR Plant Near You"

PRODUCTS

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Paper Makers Chemical Co.—Easton, Pa., Holyoke, Mass.
Western Paper Makers Chemical Co.—Kalamazoo, Mich., Pensacola, Fla., Jacksonville, Fla., Savannah, Ga., Comstock, Mich.
C. K. Williams & Company, Easton, Pa.
Georgia-Louisiana Company, East Point, Ga., Marrero, La.
Superior Pine Products Company, Fargo, Ga., Tarver, Ga.
Empire Size & Chemical Co., Albany, N. Y.
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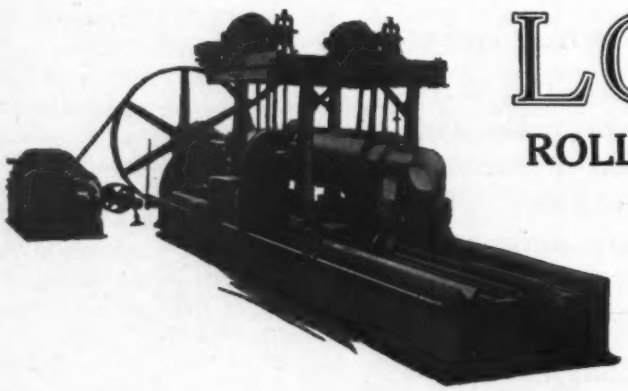
Vera Chemical Corporation, Stoneham, Mass.
Vera Chemical Company, North Milwaukee, Wis.
John Regnier & Son Company, Boston, Mass.
George S. Mepham Company, East St. Louis, Mo.
Pochins & Paper Makers Chemicals, Ltd., Erith, Kent and Manchester, Eng.



LOBDELL

ROLL GRINDING MACHINES

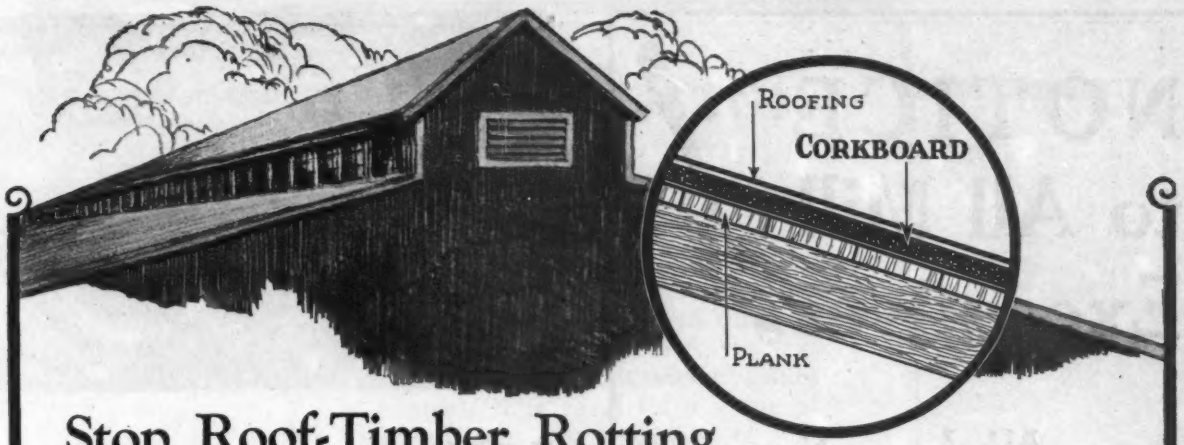
Full Motor Driven
Rapid
Accurate
Long Lived

The AUTOMATIC crowning device and the provision for leveling the bed are EXCLUSIVE features of the LOBDELL Roll Grinding Machines

LOBDELL CAR WHEEL COMPANY

Established 1836

WILMINGTON, DELAWARE



Stop Roof-Timber Rotting *by Insulating the Roof with Armstrong's Corkboard*

CONDENSATION of moisture is the primary cause of roof timber rotting, one of the biggest items of depreciation in paper mill buildings.

But condensation can in most cases be completely prevented and the life of roof timbers prolonged by insulating the roof with Armstrong's Corkboard. Armstrong's Corkboard so reduces the heat conductivity of the roof deck that its temperature is easily kept above the dew-point for all but the most extreme conditions of air saturation.

In machine rooms where humidity is 100%, Armstrong's Corkboard on the roof *lessens* the tendency to condensation and thereby greatly assists the operation of ventilating and other apparatus for dissipating fog.

If ceiling sweat and roof timber rot are problems in your present building, Armstrong's Corkboard Roof Insulation will help you overcome them. Armstrong's Corkboard can be laid on any roof, new or old, directly on the deck, wood, concrete, or metal, or over the old roofing. New roofing is applied on the corkboard in the usual way.

Send for this Book

The results of Armstrong experience in eliminating condensation have been compiled and published in book form. There is no charge for the book. Write for "The Insulation of Roofs to Prevent Condensation."

Free Engineering Counsel

Armstrong Engineers have had years of experience in dealing with the condensation problem. The benefit of this experience is yours for the asking. Address Armstrong Cork & Insulation Company, 217 Twenty-fourth Street, Pittsburgh, Pa.

Armstrong's Corkboard Insulation

for the Roofs of All Kinds of Buildings

NOTICE to All Mill Executives.

Nielsen Surveys Now Available

SEVERAL very comprehensive surveys covering Dayton High Speed Beater performance have just been prepared by the A. C. Nielsen Company, Chicago.

These surveys contrast operating conditions before and since the installation of Daytons and contain close figures, and percentages on every phase of high speed performance.

They should be especially interesting because they contain no data prepared by ourselves—every iota of material having been compiled independently by impartial Nielsen experts working in conjunction with mill executives.

You are bound to be interested in data obtained in this impartial and highly exhaustive manner—and since it was assembled for your study we urge you to write us regarding it.

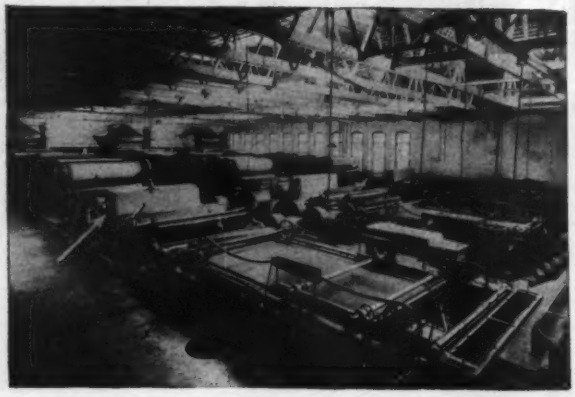
The Dayton Beater & Hoist Co.

DAYTON, OHIO

Eastern Representatives, E. K. Mansfield & Co.

501 5th Ave., New York, N. Y.

DAYTON
High Speed Beaters



Where every minute counts!

TIME is money to paper makers. Every minute added to productive time is money saved, just as every minute added to a shut-down is money lost.

In keeping minutes on the right side of the ledger, do not forget the importance of efficient cleaning. Use modern Oakite materials and methods and you will get ***more*** cleaning in a given number of minutes than in any other way. You will save time and labor in washing felts, in cleaning Fourdrinier wires, dandy rolls and other paper mill equipment. Your cleaning costs will be ***lower***, too, because Oakite materials are the most economical you can use.

Drop us a line today and find out what Oakite can do for you in your mill. No obligation.

Oakite is manufactured only by
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(Formerly OAKLEY CHEMICAL CO.)

Oakite Service Men, cleaning specialists, are located at:

Albany, N. Y.; Allentown, Pa.; Altoona, Pa.; *Atlanta; Baltimore, *Birmingham, Ala.; *Boston, Bridgeport, *Brooklyn, Buffalo, *Camden, N. J.; Charlotte, N. C.; Chattanooga, Tenn.; *Chicago, *Cincinnati, *Cleveland, *Columbus, Ohio; *Dallas, *Davenport, *Dayton, O.; Decatur, Ill.; *Denver, *Des Moines, *Detroit, Erie, Pa.; Flint, Mich.; Fresno, Cal.; *Grand Rapids, Mich.; Harrisburg, Pa.; Hartford, Houston, Texas; *Indianapolis, *Jacksonville, Fla.; *Kansas City, *Los Angeles, Louisville, Ky.; *Memphis, Tenn.; *Milwaukee, *Minneapolis, *Moline, Ill.; *Montreal, Newark, N. J.; Newburgh, N. Y.; New Haven, *New York, *Oakland, Calif.; *Omaha, Neb.; *Philadelphia, *Pittsburgh, Portland, Me.; *Portland, Ore.; Providence, Reading, Pa.; *Rochester, N. Y.; Rockford, Ill.; *Rock Island, *San Francisco, *Seattle, *St. Louis, South Bend, Ind.; Syracuse, N. Y.; *Toledo, *Toronto, Trenton, N.J.; *Tulsa, Okla.; Utica, N.Y.; *Vancouver, B. C.; Williamsport, Pa.; Worcester, Mass.

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TRADE MARK REG. U.S. PAT. OFF.
Industrial Cleaning Materials and Methods

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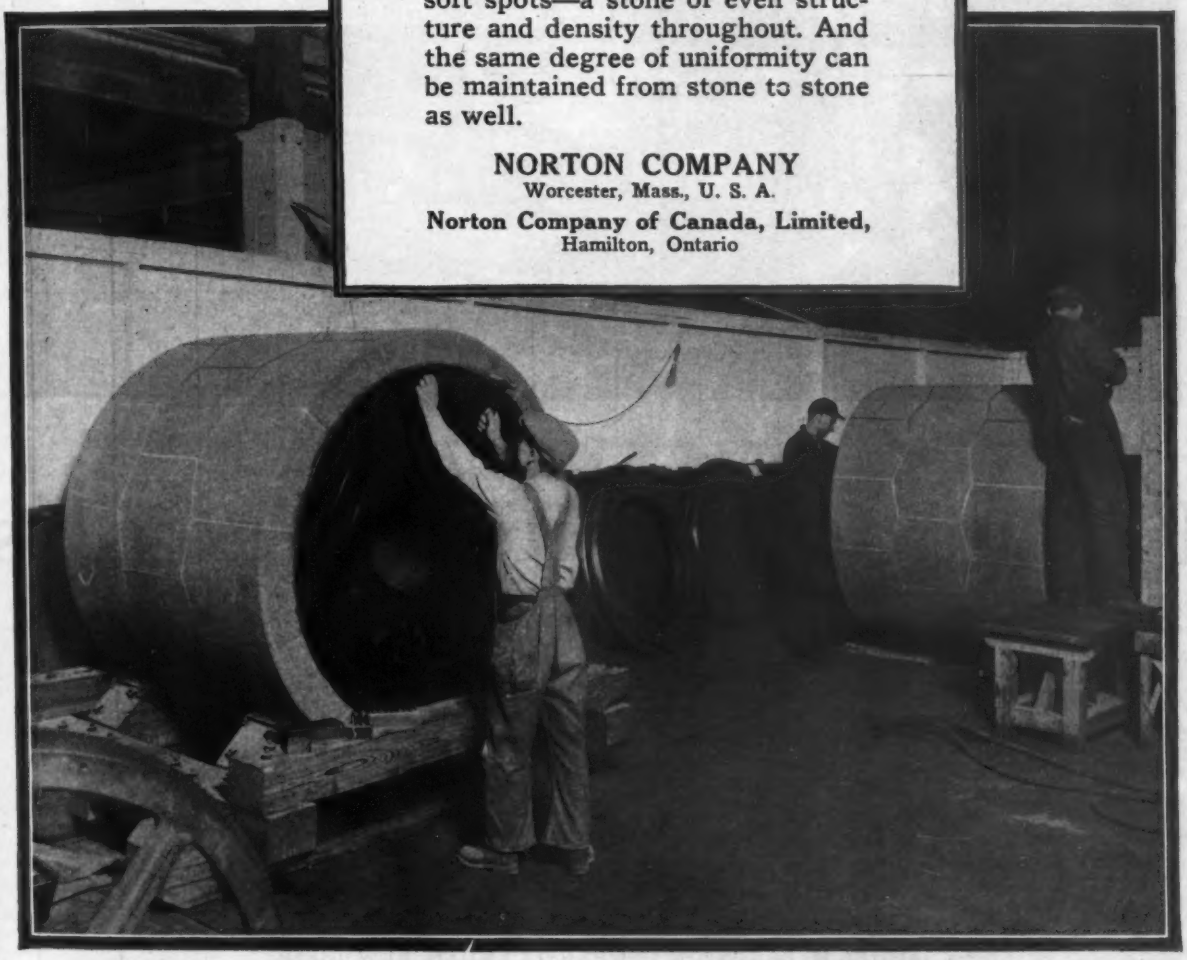
Norton Company of Canada, Limited,
Hamilton, Ontario



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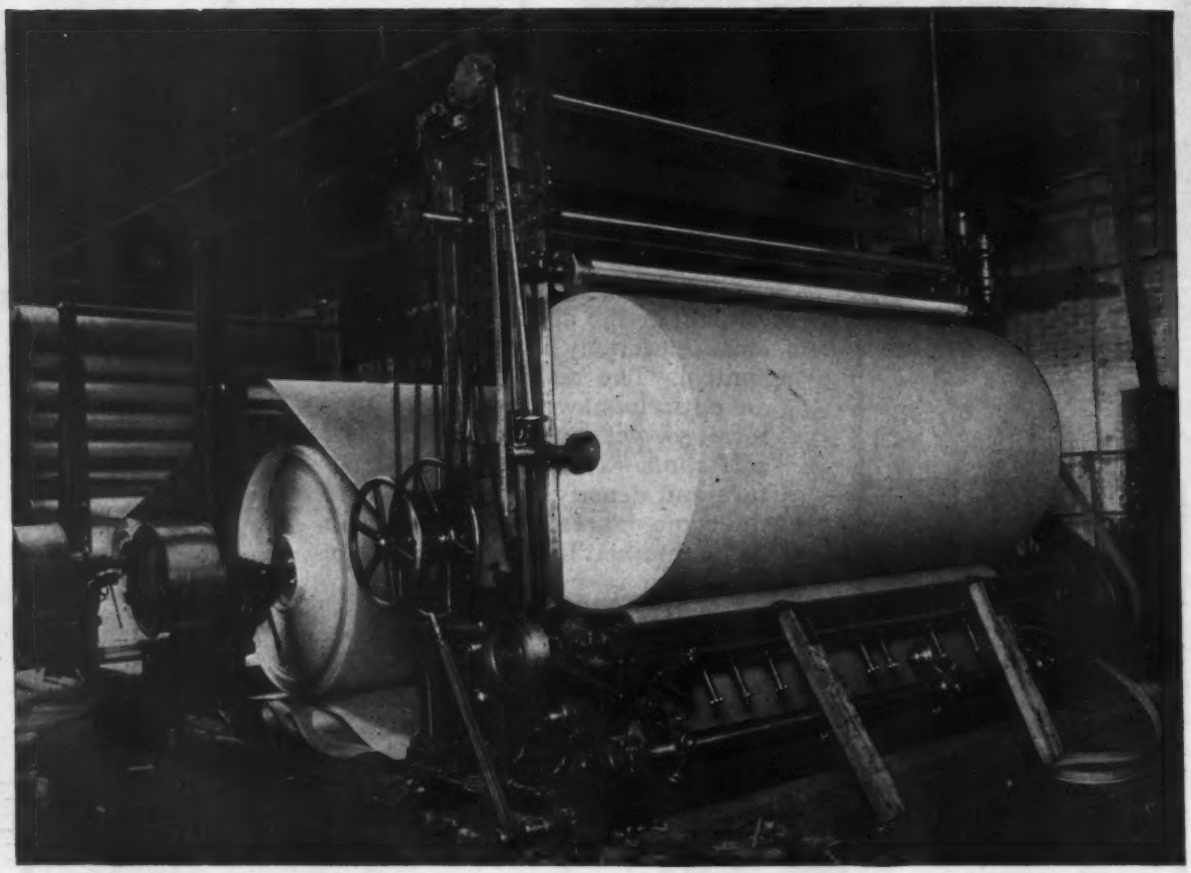
Grinding Wheels
Grinding Machines

Refractories-Floor and Stair Tiles



110" Type "CA" Langston Slitter and Winder recently installed in mill of Container Corporation of America, Cincinnati, Ohio.

For good corrugating rolls

EVERY corrugator knows full well how important it is to have rolls that are tight and of uniform density. The making of rolls that meet these conditions presents no difficulty whatever in mills that use the Langston Slitter. With the Langston winding principle it is a simple matter to wind rolls that are tight from the very first wrap, and the desired tightness to be maintained right up to the maximum diameter, which means uniform density.

Another important Langston advantage: The Langston Shear Cut insures rolls absolutely free of dust. Trouble due to dust or lint clogging the silicate system can never occur when the rolls are made on a Langston.

Is it any wonder that so many mills that supply rolls for use in corrugators as well as on solid fibre pasters or in other converting operations, use Langston Slitters!

A FEW of the mills making rolls for corrugating on Langston Slitters are:

Robert Gair Company, (6 *Langstons*)
Container Corp. of America, (6 *Langstons*)
Kieckhefer Container Co.,
Brown Paper Mill Co. (4 *Langstons*)
National Paper Products Co., (3 *Langstons*)
American Boxboard Co., (2 *Langstons*)
Terre Haute Paper Co., (3 *Langstons*)
Foster Boxboard Co.

SAMUEL M. LANGSTON COMPANY, CAMDEN, NEW JERSEY
A. H. COX & COMPANY, INC., SEATTLE, WASHINGTON

CLEAN SHEAR CUT CUT

LANGSTON SLITTERS

TRADE
CAMACHINE
MARK
ROLL-WINDERS

Better Rolls—

Greater Production—

Trouble-Free Service—

A thoroughly efficient machine capable of slitting wide materials into a number of narrower widths or many narrow strips, is a valuable addition to modern factory equipment where rolls of paper or board of any kind are required in the manufacture of the articles there produced, or where material in roll form is produced for sale to others who utilize it.

May we tell you how CAMACHINES have kept pace with the needs of the paper industry, and how the right slitter and roll winder will save you money by speeding up production and cutting down waste? Just drop us a line.

CAMERON
MACHINE COMPANY
61 POPLAR STREET BROOKLYN, NEW YORK

PAPER TRADE
ESTABLISHED 1872
JOURNAL

THE INTERNATIONAL WEEKLY OF THE PAPER AND PULP INDUSTRY AND THE PIONEER PUBLICATION IN ITS FIELD

FIFTY-SIXTH YEAR

Published Every Thursday by the

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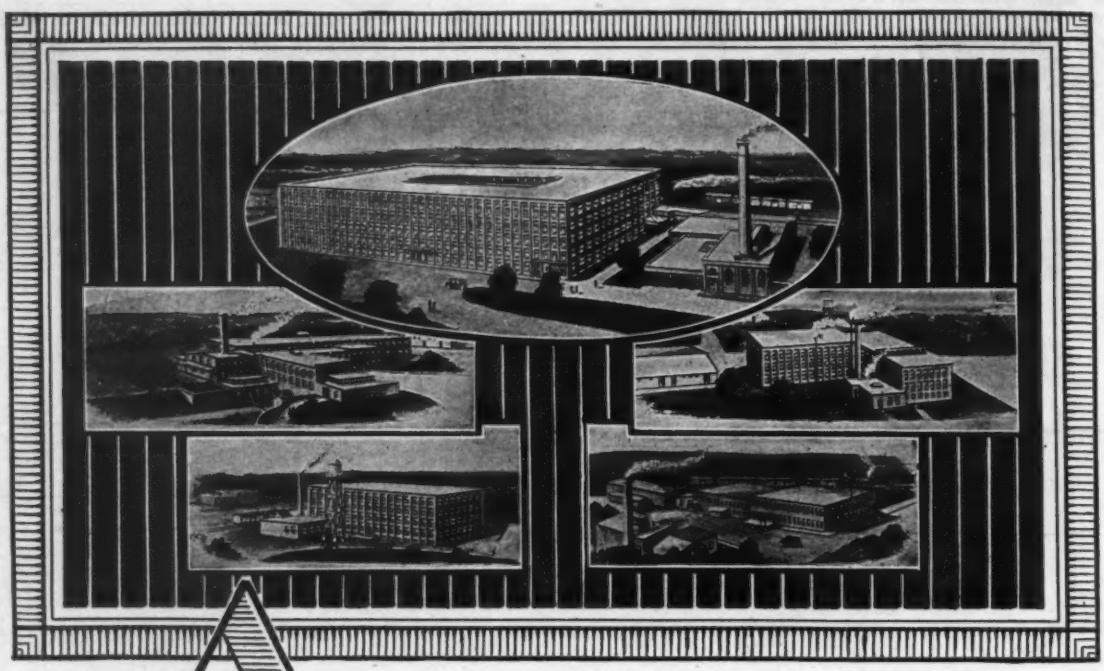

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PAPER TRADE JOURNAL

With Which Is Combined

Vol. LXXXV, No. 15 — PAPER — Thursday, October 13, 1927

Technical Association Meets at Middletown

Fall Convention Is Attended by More Than Two Hundred Members From All Parts of The United States and Canada—Local Committee, with Arthur R. Harvey as Chairman, Provides Splendid Hospitality—List of the Members and Guests Present at the Meeting

[FROM OUR SPECIAL REPRESENTATIVE]

MIDDLETOWN, Ohio, October 10, 1927.—In a gathering of about two hundred the members of TAPPI and their friends from all parts of United Staes and Canada, with those in the Miami Valley, held its Fall Meeting in Middletown last week. Too much credit cannot be given to Arthur R. Harvey, the chairman of the local committee, with his able coadjutors, for the excellent arrangements made for the comfort and entertainment of the out of town guests. Besides the accommodations at the Hotel Manchester, where the convention had its headquarters, many of the guests were entertained at the homes of friends in the Valley. The local committee represented the Miami Valley towns as well as the paper mills and allied industries which were interested in the technical phases of the paper industry.

The Local Committee

The local committee included: Arthur R. Harvey, *Chairman*, Gardner & Harvey Company; Minor M. Beckett, Beckett Paper Company; A. D. Flint, Union Gas and Electric Company; K. P. Geohegan, Aetna Paper Company; O. P. Gephart, Oxford-Miami Paper Company; A. B. Green, Middletown, Ohio; H. H. Harrison, Crystal Tissue Company; George H. Harvey, Gardner & Harvey Company; Tom Harvey, Gardner & Harvey Company; H. L. Kutter, Black-Clawson Company; Ray McComas, Hotel Manchester; Homer D. Martindale, Champion Coated Paper Company; J. J. O'Connor, Mead Pulp and Paper Company; R. B. Roe, Paul A. Sorg Paper Company; D. D. Thirkield, W. B. Oglesby Paper Company; Carl A. Wevat, Middletown Civic Association.

The Sessions

The meetings were held in the Hotel Manchester and the mornings of Wednesday, Thursday and Friday were devoted to reports and discussions of many important papers under the chairmanship of E. C. Tucker, president of the Association.

At the first session the progress reports of the standing commitees were received. Most of them were presented by the chairman in person although a few had sent in their written reports as they were unable to attend.

Collective Bibliography

In the report of the Committee on Abstracts and Bibliography, which is a joint committee with the Canadian Technical Section, Dr. Clarence J. West reported that a large part of his spare time has been spent in collecting material for a collective bibliography of papermaking literature covering the period of 1900 to date. He hopes to have it completed, ready for publication, early in 1928 as a contribution of the committee. The bibliography will contain references to articles in the paper magazines of the leading papermaking countries during the past twenty-seven years, and is naturally a very large task. It is hoped that the value of such a bibliography will be sufficiently appreciated to enable its publication.

Paper Definitions

Dr. West is also acting as chairman of the committee revising the definitions of paper terms which were published in 1924.

Stuff Preparation

In the report of the Committee on Stuff Preparation or beater control, the chairman, George K. Spence, outlined the field of activities which his committee covers, as follows:

Control of furnish of sulphite, soda, rag and groundwood pulps, as well as deinked papers, together with methods in use for deinking old papers and preparing the stock for the beaters, the control to include alkalinity, chlorides, colloidal stock, etc.; time element in beating; effect of beater temperature on stock for various purposes; effect of density on time of hydration; hydrogen ion control; quick methods for determining nature of stock before passing from the beaters, including consistency and freeness testers, hand sheets, etc.; effect of jordans as compared with beaters; mechanical devices for recording the action of beaters; coloring, sizing, and loading, together with methods for controlling amount used; benefits derived from the use of silicate of soda, starchy materials, animal size, etc.; foam and slime preventives; and many other problems relative to control of stock prepared in the beaters for the paper machines.

One of the papers to be presented at the annual meeting that had been promised was one on the control of stocks furnished to the beater in order to eliminate as much as possible of foaming on the paper machine.

Roofing Felt

P. W. Codwise, chairman of the Committee on Roofing Felt, in giving his report said that the committee was working with the Paper Testing Committee on the standardization of methods of analysis of roofing felt.

In the manufacturing phases it is proposed to study the most economical method of disintegrating the rags as well as to study the sheet formation and the drying.

A paper to be discussed at the annual meeting is one on the application of freeness control to roofing felt manufacture.

Other Important Reports

Other important reports that were received and discussed were those on paper testing presented by E. F. McIntyre of the Paper Section, Bureau of Standards, in the enforced absence of B. W. Scribner, chairman of the committee; groundwood by S. C. Brayton, Itasca Paper Company; sulphite by G. P. Genberg, Fraser Companies, Limited; soda pulp by W. S. McClellan, P. H. Glatfelter Company; sulphate by C. K. Textor, Northwest Paper Company; and training for the paper industry by Allen Abrams, Marathon Paper Mills Company.

Report of Committee on Training

In contradistinction to the former committee which concerned itself with training men already *in* the pulp and paper industry, this committee was formulated to train men *for* the industry. Consequently, it has grasped the opportunity for narrowing the gap between the technical man and the operating man by giving the technical man a mild dose of operating experience.

At a meeting in Madison on June 4 there were gathered four members of the committee, four professors from the University of Wisconsin and two other interested men. After a thorough discussion of the many cooperative plans now in operation, your committee decided to proceed with a tentative arrangement between the University of Wisconsin and pulp and paper mills in the vicinity.

This arrangement contemplated the following program:

1. During the university year representatives to be sent from certain pulp and paper mills in the state to give talks before the classes of engineering, chemistry, etc. Men would be selected who could present fairly to the student a picture of the requirements and the possibilities of this industry.

2. After the student had had an opportunity to consider the desirability of entering the industry, a census would be made to determine what men were interested in doing summer work in the mills. From these would be picked men who showed a reasonable aptitude for the work and a possibility of making good at it.

3. Having previously canvassed the pulp and paper mills as to the number of men they could place for a period of two or three months in the summer, there would be allotted to these mills the required number of students. Such men would preferably be placed in laboring positions under the supervision of either a technical man or the mill manager; and would receive the customary rate for the work in which engaged. It would be explained to them that they were not to expect any particular favors but, on the other hand, that they were to feel free to come for advice at any time. At the end of the summer period these men would submit a report covering their experiences and indicating what they had learned from their summer's work.

4. Starting with men who have completed the freshman year in the University, it was proposed to place these either in different departments of the same mill or in different mills for the three successive summer vacations during their college training period. At the end of that time it was believed that the student should have a fairly clear picture of the industry and should have a more sympathetic attitude toward the operating man.

5. Provided this program worked out satisfactorily, it was then believed desirable to develop the idea on a larger scale. Under such an arrangement the country would be divided into cooperating areas wherein the mills and the schools in the respective areas would be brought in touch with one another. It was suggested that the office of the secretary of TAPPI might act as central agency to bring these parties together.

Although it was rather late in the year to attempt an experiment, an arrangement was made whereby four students of the University were placed as laborers in the following mills: Tomahawk Kraft Paper Company, Kimberly-Clarke Company, Beloit Iron Works, and Marathon Paper Mills Company. The success of this experiment is to be judged by the reports received both from the mills and from the students themselves. On the one hand, we find the mills thoroughly satisfied that they had derived full value from the student's work and, at the same time, were making a material contribution toward the welfare of the industry. On the other hand, it is particularly interesting to note how this contact has assisted the student.

Practical results indicate the feasibility of this plan so that during the coming year it is the purpose of this committee to carry out the full program in the state of Wisconsin and to amplify the work in other states.

Resolution Supporting McSweeney Bill

In view of the close relations of the Technical Association and its appreciation of the work done at the Forest Products Laboratory, Madison, a resolution was adopted expressing the support of TAPPI for the McSweeney Bill which, if passed, will authorize an increased annual appropriation for the Laboratory.

C. M. Baker Introduced

Although still occupying the position of chief engineer of the Bureau of Sanitary Engineering of Wisconsin, Mr. Baker's presence at the convention made it opportune to introduce him to the Technical Association as he will be identified with waste elimination and stream purification in the paper industry after November 1.

The interest in the recovery of valuable materials formerly discharged in the mill effluent was emphasized and the new work in connection with the paper industry, on which Mr. Baker will soon be engaged, was discussed.

PICTURE TAKEN AT THE ANNUAL MEETING OF THE TECHNICAL

James d'A. Clark a Guest

Another honored guest of the convention was James d'A. Clark who had spent a year in United States and Canada a few years ago, studying the engineering of paper manufacture and who, since his return to England, has been associated with Arthur Baker, managing director of Bowater's Paper Mills, Northfleet, England. As Mr. Baker has long been a valued member of TAPPI and has many friends here, between Mr. Clark's own numerous acquaintances and his present association he had a very cordial welcome.

Papers Presented and Discussed

At the other sessions a number of extremely interesting subjects were presented, among which was one by A. D. Flint on the Application of Electricity to the Paper Industry, with a description of the Columbia Power Plant near Cincinnati which serves many paper mills and was later visited by a large group of members.

A description of the use of pure iron in the paper industry was given by D. M. Strickland following a visit through the Eastside Plant of the American Rolling Mill Company at Middletown.

Dr. Donald E. Cable also presented a report of his studies in Sulphite Cooking which dealt with the influence of preliminary impregnation of the chips and the lowering of the digester pressure at the end of the digestion on the quality and yield of pulp.

Another very interesting and instructive address was given by A. H. Hooker, Jr., director of service of Hooker Electrochemical company, New York, who had just been returned from an extended tour through Europe with James Rogers, II, J. & J. Rogers Company, AuSable Forks, N. Y. They had visited all the leading mills where pulp bleaching is done, in England, Norway, Sweden, Finland, Germany and France. In Mr. Hooker's address he spoke at length of the bleaching equipment and practice observed, as well as the acquaintances they had made with the technical men in these countries.

Mr. Hooker expressed his extremely high appreciation for the cordial reception he had received everywhere and strongly advised the members here to visit their European fellow technical men for their mutual benefit.

Trips Through Mills

Although on account of a local exposition some of the mills in the valley which had been planned to visit were closed, those at which the members were entertained included: American Envelope Company, American Tablet Company, Beckett Paper Company, Black-Clawson Company, Crystal Tissue Company, Enterprise Machine Company, Gardner & Harvey Company, Harding & Jones Paper Company, Lawrence Bag Company, Miami Tablet Company, Nashua Gummed and Coated Paper Company, W. B. Oglesby Paper Company, Oxford-Miami Paper Company, Shartle & Bevis Company; Shartle Brothers Machine Company, Shuler & Benninghofen, Frank Smith Paper Company, Paul A. Sorg Paper Company, West Carrollton Parchment Company, Wrenn Paper Company, and several others.

Fall Dinner

The Hotel Manchester fall dinner was held on Wednesday night, at which there was a full attendance. Besides music and entertainment there were speeches by James d'A. Clark, A. H. Hooker, Jr., and H. R. Beatty, director of education of American Rolling Mills Company. The speaker of the evening was Wade Miller, president of the Middletown High School and delivered a most eloquent and instructive address.

At Butler County Country Club

The Miami Valley Manufacturers Association entertained the convention at luncheon at the beautiful country club near Middletown where a number of members afterwards enjoyed a game of golf.

Frigidaire and National Cash Register Company

The convention closed on Friday with a visit to the plants of Frigidaire Corporation and National Cash Register Company at Dayton, O., although a number of the members arranged to spend the week-end with friends in the vicinity.

Those Who Attended

Among the members and guests who attended the meeting were the following:

Allen Abrams, Marathon Paper Mills Company; A. J. Abrams, Bogalusa Paper Company.

C. L. Bachelder, Western Paper Makers Chemical Company; W. E. Byron Baker, Continental Paper and Bag Mills Corporation; C. M. Baker, State Department of Health, Wisconsin; H. F. Bennett, Gardner & Harvey Company; T. C. Bentzen, Whiting-Plover Paper Company; N. H. Bergstrom, Bergstrom Paper Company; J. M. Bilisoly, Dorr Company; Harold Bing, Paper and Textile Machinery Company; W. H. Boast, Gardner and Harvey Company; L. M. Booth, Booth Chemical Company; R. L. Bosworth, Crocker-McElwain Company; F. C. Bowen, Strathmore Paper Company; Donald Bradner, Champion Coated Paper Company; G. S. Brazeau, Appleton Machine Company; L. H. Breyfogle, Draper Brothers Company; E. H. Butterfield, Gardner & Harvey Company.

Donald E. Cable, Oxford Paper Company; James A. Cameron, Cameron Machine Company; C. H. Champion, Kalbfleisch Corporation; R. C. Charron, United States Envelope Company; A. Christensen, Rhinelander Paper Company; James d'A. Clark, Bowater's Paper Mills, Limited; John Cornell, *Paper Mill;* T. Linsey Crossley, Industrial Laboratories, Limited; C. E. Curran, Forest Products Laboratory.

J. C. Dieffenderfer, Paper Makers Chemical Company; F. B. Dilts, Dilts Machine Works; John Ditmyre, Gardner & Harvey Company; J. Dixon, Calco Chemical Company; T. L. Dunbar,

ASSOCIATION OF THE PULP AND PAPER INDUSTRY, MIDDLETOWN, OHIO, OCT. 5-7, 1927

Canadian Stebbins Engineering and Manufacturing Company.

O. S. Egan, Nekoosa-Edwards Paper Company; Sigge Ekman, Tomahawk Kraft Paper Company; R. L. Eminger, American Pulp and Paper Mill Superintendents Association.

H. S. Faram, Watervliet Paper Company; A. D. Flint, Union Gas and Electric Company; James Foxgrover, Western Paper Makers Chemical Company; D. R. Francis, Waterbury Tool Company; A. H. French, Cherry River Paper Company.

W. W. Galloway, Hagar Straw Board and Paper Company; A. T. Gardner, Combined Locks Paper Company; K. P. Geohegan, Aetna Paper Company; O. P. Gephart, Oxford-Miami Paper Company; Edward Geran, Gardner & Harvey Company; P. H. Glatfelter, P. H. Glatfelter Company; O. J. Goeppinger, Waterbury Tool Company; Arthur B. Green; E. W. Gross, Hammermill Paper Company.

Harry Hadley, Gardner & Harvey Company; E. G. Ham, John A. Manning Paper Company; R. O. Harper, B. D. Rising Paper Company; H. H. Harrison, Crystal Tissue Company; J. R. Hartman, Union Gas and Electric Company; Arthur R. Harvey, Gardner & Harvey Company; George H. Harvey, Gardner & Harvey Company; Harold Harvey, Gardner & Harvey Company; Tom Harvey, Gardner & Harvey Company; J. D. Haskell, Dilts Machine Works; E. C. Hendrickson, Mead Pulp and Paper Company; E. S. Hinman, P. H. Glatfelter Company; P. E. Hodgdon, Munising Paper Company; H. H. Holden, Vera Chemical Company; H. M. Holmes, Hammermill Paper Company; A. H. Hooker, Jr., Hooker Electrochemical Company; C. M. Howell, Scott Paper Company; H. Huber, Marburg Brothers.

H. L. Joachim, Central Paper Company; F. H. Johnson, Jr., Cherry River Paper Company; W. O. Johnson, Strathmore Paper Company; R. S. Johnston, Pusey & Jones Corporation; M. C. Jones, Michigan Carton Company; L. E. Jonte, Hoberg Paper and Fibre Company.

Horace Keesey, Schmidt & Ault Paper Company; R. S. Kellogg, News Print Service Bureau; J. R. Kessler, Dill & Collins Company; D. B. Kimball, Bird & Son, Inc.; A. F. Klein, Hammermill Paper Company; H. L. Kutter, Black-Clawson Company.

F. D. Libby, Kalamazoo Vegetable Parchment Company; J. S. Little, Western Electric Company; H. H. Lockey, B. D. Rising Paper Company; L. E. Longstreth, National Aniline & Chemical Company; Cecil Lynch, Dill & Collins Company.

C. R. MacDonald, Consolidated Paper Company; W. W. Macklem, Black-Clawson Company; W. G. MacNaughton, Technical Association of the Pulp and Paper Industry; L. W. Mahle, Ohio Boxboard Company; L. C. Marburg, Marburg Brothers; George J. Maye, Hooker Electrochemical Company; M. F. McCombs, Electro Bleaching Gas Company; G. F. McCrea, Mead Pulp & Paper Company; Miss L. E. McGrath, Booth Chemical Company; E. F. McIntyre, U. S. Bureau of Standards; Charles Milligan, Champion Coated Paper Company; W. H. Monsson, Forest Products Laboratory; A. E. Montgomery, J. O. Ross Engineering Corporation; H. J. Murbach, Gardner & Harvey Company.

Gunnar Niklasson, Bogalusa Paper Company; W. L. Nye, Scott Paper Company.

J. B. Peake, Mathieson Alkali Works, Inc.

R. M. Radsch, Thilmany Pulp and Paper Company; A. T. Randall, Westinghouse Electric and Manufacturing Company; R. B. Roe, Paul A. Sorg Paper Company; William Rogers, PAPER TRADE JOURNAL; H. T. Ruff, Mead Pulp & Paper Company.

Thomas H. Savery, Jr.; A. X. Schwebel, Gardner & Harvey Company; D. E. Scott, Adams Bag Company; F. L. Shonkwiler, Fulton Engineering Company; F. T. E. Sisson, Racquette River Paper Company; A. F. Smith, General Electric Company; C. U. Smith, Westinghouse Electric & Manufacturing Company; George K. Spence, New York & Pennsylvania Company; A. O. Spierling, Hammermill Paper Company; L. M. Start, Rice, Barton & Fales, Inc.; E. P. Strong, Munising Paper Company; J. H. Swan, Gardner & Harvey Company; W. H. Swanson, Kimberly-Clark Company.

W. H. Theroux, Paper and Textile Machinery Company; John Traquair, Mead Pulp & Paper Company; E. F. Troop, P. H. Glatfelter Company; E. C. Tucker, Chemical Paper Manufacturing Company.

Edward Weber, National Aniline and Chemical Company; P. F. Wehmer, Electrical Testing Laboratories; W. J. Weed, Electro Bleaching Gas Company; H. E. Weston, Paper Industry; S. P. Whitesel, Union Gas and Electric Company; E. F. Whittington, Standard Paper Company; A. Wiberg, Gilbert Paper Company; R. A. Wilkins, Bird & Son, Inc.; E. J. Wilson, F. C. Huyck & Sons; G. H. Young, Fulton Engineering Company.

Box Board Production for August

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., October 10, 1927.—August production of boxboard, based on reports to the Department of Commerce by 92 firms operating 119 plants, reports for earlier months including three concerns now out of business, was 89.7 per cent of capacity, as compared with 79.1 per cent in July and 90.6 per cent in August, 1926. In the following table the capacity data vary according to the normal number of working days in each month.

BOX BOARD

Year and Month	Operation: Inch hours Capacity	Operation: Inch hours Operated	Operation: Per cent of Capacity	Production: Short Tons Capacity	Production: Short Tons Output	Production: Per cent of Capacity	New Orders Short Tons	Unfilled Orders (end of month) Short Tons
1926								
January	10,081,400	8,134,718	80.7	241,377	197,360	81.8	211,263	120,091
February	9,597,504	7,975,249	83.1	230,568	196,965	85.4	183,030	106,269
March	10,797,192	9,161,681	84.9	259,389	225,688	87.0	219,994	104,128
April	10,397,296	8,628,895	83.0	249,782	207,765	83.2	194,824	90,671
May	9,997,400	8,400,090	84.0	240,175	207,498	86.4	200,832	83,452
June	10,397,296	9,139,549	87.9	249,782	221,909	88.8	242,089	109,559
July	10,397,296	8,603,941	82.8	249,782	206,235	82.6	219,271	122,202
August	10,397,296	9,140,370	87.9	249,782	226,337	90.6	212,845	110,362
Total 8 mos.	82,062,680	69,184,493	84.3	1,970,637	1,689,757	85.7	1,684,148	.....
1927								
January	9,997,400	6,998,505	70.0	240,175	173,629	72.3	194,285	105,669
February	9,597,504	7,583,477	79.0	230,568	189,273	82.1	183,861	102,005
March	10,797,192	8,627,946	79.9	259,389	219,824	84.7	230,065	114,369
April	10,397,296	7,771,040	74.7	249,782	205,589	82.3	197,435	101,861
May	9,997,400	*7,759,515	*77.6	240,175	*198,710	*82.7	*192,616	*93,248
June	10,397,296	*8,200,254	*78.9	249,782	*213,196	*85.4	*212,227	*94,847
July	9,997,400	*7,413,384	*74.2	240,175	*189,875	*79.1	*212,434	*115,097
August	10,797,192	8,885,602	82.3	259,389	232,723	89.7	227,397	112,763
Total 8 mos.	81,978,680	63,239,723	77.1	1,969,435	1,622,819	82.4	1,650,320	.....

Year and Month	Shipments of boxboard Short Tons	Stocks of boxboard, end of month Short Tons	Consumption of waste paper: Capacity Short Tons	Consumption of waste paper: Consumed Short Tons	Per cent of Capacity	Stocks of waste paper, end of month: On hand Short Tons	Stocks of waste paper, end of month: In transit and unshipped purchases Short Tons
1926							
January	196,544	49,634	233,311	187,915	80.5	172,203	44,477
February	194,704	50,717	223,512	187,871	84.1	166,536	55,035
March	222,018	54,265	251,451	214,046	85.1	154,923	42,971
April	208,281	53,661	242,138	209,245	86.4	149,742	50,480
May	207,934	54,599	232,825	193,892	83.3	140,718	45,327
June	215,931	60,080	242,138	213,912	88.3	139,967	58,820
July	206,591	59,193	242,138	201,582	83.2	145,334	60,482
August	224,702	60,420	242,138	222,403	91.7	195,597	57,285
Total (8 mos.)	1,676,705	.....	1,909,651	1,630,866	85.4	.....	.....
1927							
January	175,528	53,562	232,825	163,337	70.2	163,023	38,062
February	189,032	53,327	223,512	182,322	81.6	158,222	40,602
March	217,876	54,566	251,451	209,730	83.4	155,513	43,789
April	209,944	50,211	242,138	189,942	78.4	147,938	46,314
May	*200,282	*48,906	232,825	*191,427	*82.2	*149,438	59,289
June	*210,320	*52,452	242,138	*205,537	*84.9	*151,671	43,807
July	*194,131	*49,519	232,825	*180,822	*77.7	*151,094	51,520
August	229,719	52,283	251,451	227,430	90.4	130,503	72,087
Total (8 mos.)	1,626,832	.....	1,909,165	1,550,547	81.2	.....	.....

* Revised.

New Medical Supervisor for Newton Falls Mill

[FROM OUR REGULAR CORRESPONDENT]

NEWTON FALLS, N. Y., October 8, 1927.—Dr. L. U. Hurlburt, who has been medical supervisor for the Newton Falls Power Company, has severed his connection with the company and will leave this village in the near future.

Six Dead in Beater Room Collapse at Kimberly

A Dozen or More Additional Workmen Are More or Less Seriously Injured In Accident at the Plant of the Kimberly-Clark Co.—Cause of Collapse of Building Is Unknown—Company Has Been Among Leaders in the Industry in Safety Work.

[FROM OUR REGULAR CORRESPONDENT]

APPLETON, Wis., October 8, 1927.—Tragedy such as has not been known to the paper industry for many a day in Wisconsin took its toll this week at the Kimberly-Clark Company's mill at Kimberly, Wis. Collapse of a wall in the beater room, with a resulting ruination of this entire unit of the plant, caused the death of six workmen and serious or slight injuries to a dozen or more. At this writing three more men are missing and while it is assumed they also have perished, their fate will not be known until rescuers finish their work.

Complete cessation of operations was ordered immediately after the accident happened about 10 o'clock Friday morning, October 7. There will be no attempt to resume production until Tuesday of the coming week, but with three beaters completely wrecked, the mill will be greatly crippled. There has been no estimate of the amount of financial loss as the managing personnel has concerned itself only with rescue work up to the present time.

Pay of all workmen is being continued during the time the mill is idle, and those who engaged in the hazardous rescue work were allowed time and a half during those hours.

Cause of Accident Unknown

Just what caused the building to collapse has not been determined. Repair work and enlargements of a very extensive nature have been in progress for some time next to the ill-fated beater room, and nineteen employees of C. R. Meyer & Sons Company, building contractors, were among the thirty men endangered. Some of these were in the basement removing floor planks. There were rumors that excavations made near this location, a large amount of recent rains, and possible undermining by the river current contributed to the weakening of the wall, but these are only suppositions that engineers are trying to prove or disprove in their investigations.

Older Portions of the Building

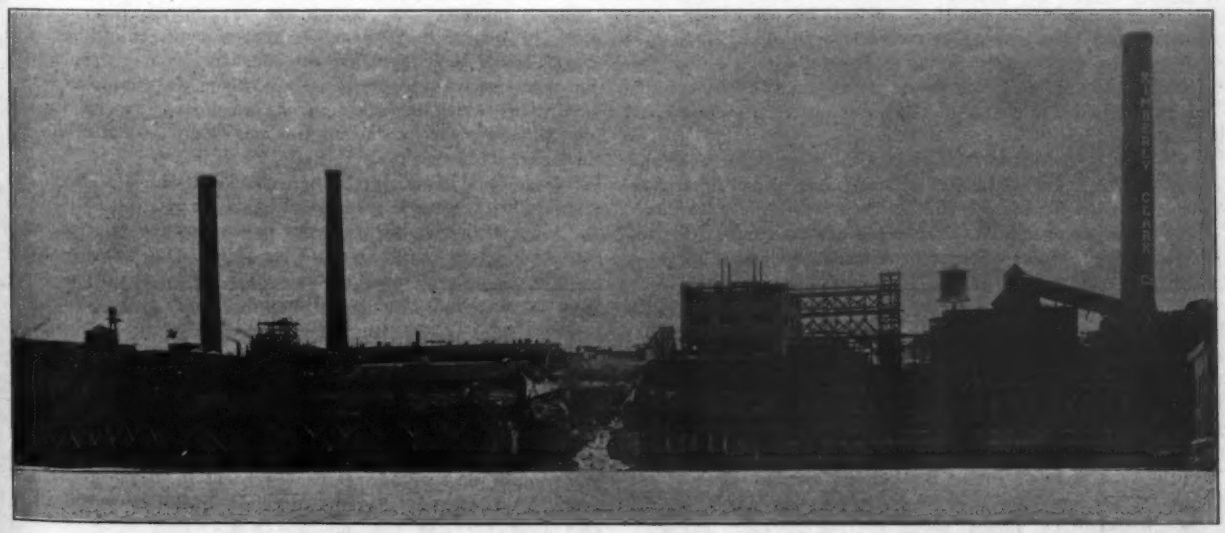
Located in the heart of the mill, the beater room was one of the older portions of the building. Its location flush with the water's edge and surrounded by other factory units made the problem of rescue a difficult one. The building was two stories high, with a very deep basement, and was of brick and stone. There were two beaters in the second story, and one in the first. There was not the slightest warning that the walls were giving way, and the crash was over within a few seconds' time. It is not known whether the upper floor or the walls gave way first, but the assumption is that the latter took place. The north wall and part of the west fell. With support removed, the upper floor and its load of beaters and pulp dropped, carrying the first floor and the third beater down to the basement. When the steam and dust had cleared away, this unit was a complete ruin, with only part of the walls standing.

Every workman was pressed into service on the rescue work, with H. G. Boon, superintendent of the Kimberly mill, directing their efforts. A few of the victims were able to extricate themselves, but eighteen were taken out within the first few hours and given hospital care. Three men came out alive after being trapped for fourteen hours, one of them with a broken leg and the other two only slightly hurt.

The Known Dead

Known dead are Otto Krueger, and John Fiers, employed by C. R. Meyer & Sons Company, and Peter VanLangveldt, Norbert Goffard, Herman Sprangers, and Arthur Brockman, of the Kimberly-Clark Company. Three others seriously injured have a chance to recover, and the remainder will be confined to the hospital for only a short time. Those unaccounted for and probably dead are Frank Johnson, J. Manders and J. Despins.

Everything that was humanly possible was done by the Kimberly-Clark Company in its instantly organized program of rescue work. Ambulances were assembled from several cities, and a large corps of surgeons mustered for duty. Police and sheriff's departments also were utilized to speed the relief cars to hospitals. The efforts thus made resulted, without doubt, in the saving of the lives of some of the unfortunate men.



KIMBERLY-CLARK PLANT AT KIMBERLY, WIS. COLLAPSED BUILDING IN CENTER

Company a Leader in Safety Work

This disaster happened in spite of one of the most remarkable attempts at safety that is known to the industrial world. The Kimberly-Clark Company was one of the first to adopt the safety movement as its daily workmen's gospel, and it is only recently that the Kimberly mill broke the world's record for the number of consecutive days of operation without a lost time accident in a plant employing 900. Safety contests with other mills were won repeatedly and there was perhaps more of the spirit of safety in this entire mill and its surrounding village of 2,500 inhabitants than anywhere else.

A coroner's inquest has been requested by the company, through its first vice president, F. J. Sensenbrenner, and its general superintendent, Ernst Mahler. The inquest will be held early next week before a coroner's jury composed of citizens of Appleton, Wis.

Neekoosa-Edwards Begin Addition

Construction has been started by the Nekoosa-Edwards Paper Company, Nekoosa and Port Edwards, Wis., on a large addition to its paper mill. The new unit will furnish additional room for the finishing department, and also will give added storage. The output of the mill is expected to be increased after this improvement is finished.

George P. Berkey Promoted

George P. Bergey, former vice president of the Consolidated Water Power and Paper Company, Wisconsin Rapids, Wis., has received a promotion in his recently acquired connection as vice president in charge of operations of paper and pulp mills of the Crown-Willamette Paper Company. Mr. Berkey now has complete operating charge of the company, including management of timber operations and transportation systems. He is located at Portland, Ore., where the seat of management is located.

General News of the Industry

Paul Bowman, assistant superintendent of the Neenah mill of the Kimberly-Clark Company, Neenah, Wis., has been transferred to the company's mill at Niagara Falls, N. Y. Mr. Bowman will have the same capacity there.

P. L. Lamoreaux, who resigned recently as superintendent of the Marinette and Menominee Paper Company, Marinette, expects to leave soon for the west. He expects to take a position there with a large paper company. His departure will be made the latter part of October.

Safety efforts of the Falls Manufacturing Company, Oconto Falls, Wis., paper mill, have been well rewarded. Based on a frequency rate as to the lost time accidents in each million hours worked, the mill has reduced the record from 96.30 in 1920 to 21.74 in 1926. The workmen are trying to better the record this year. Safety banquets are held each three months at which the executive and mill personnel in charge of the work confer on problems and methods.

Pulp wood shipments to the Interlake Pulp and Paper Company, Appleton, Wis., numbered 900 cars during August and September. Further shipments will be made until the weather farther north prevents further operations. The wood has been cut in Canada and rafted across Lake Superior to Ashland. Shipment by rail is made from that point.

Announcement has been made of the death of Herbert W. Brightman, at Atlanta, Ga., last week. He formerly was sales manager of the Northern Paper Mills, Green Bay, Wis., and at the time of death held a like position with the Crown-Willamette Paper Company at San Francisco. Burial took place at Green Bay.

Death came early this week to Mrs. Bessie G. Whiting of Neenah, Wis., wife of Frank B. Whiting, vice president of the George A. Whiting Paper Company of Menasha, Wis. She had been critically ill for several weeks and the end came following an operation at a Chicago hospital.

Boston Paper Market Firm

[FROM OUR REGULAR CORRESPONDENT]

BOSTON, Mass., October 10, 1927.—Wholesale paper dealers, by and large, are finding the demand well maintained. The market continues firm in all lines. In fine paper there is a greater call. Interest in kraft paper is sustained, and at least a fair amount of business has been transacted in this line. The box board dealers say there is a moderately good demand, with all the box-makers busy on Christmas work, although some merchants state that there is not as much volume of new orders as at one time. There is, however, a "backlog" of previous orders to be filled. It is reported in Haverhill that the condition of the shoe market is conducive to a steady business in boxes for that industry. Demand for women's shoes, although not so spasmodic or rushing as that of a year ago, when the activity ceased about the time of the Jewish holidays, has extended over a longer period, with signs propitious for a continuation of the present steadiness for some time to come. Prices of all grades of paper are unchanged.

Purveyors of paper stock and rags report a firm market generally, in some cases firmer, although prices have not advanced, and in one or two instances values are a trifle softer. There is a broad demand. Some of the purchasing agents for the paper mills seem disposed to stay out of the market, feeling that conditions justify their present attitude. The hand-to-mouth policy of the paper manufacturers has continued. In bagging, the top price for scrap burlap is now 1.65, compared with a range of 1.65 to 1.75 a week ago. Foreign roofing rags are easier in the Boston market. The demand has decreased owing to the fact that a big buyer has completed covering for requirements for the next two months and is now out of the market.

Union Bag Staff Promotions

[FROM OUR REGULAR CORRESPONDENT]

HUDSON FALLS, N. Y., October 8, 1927.—Two official changes were announced this week by the management of the Union Bag and Paper Corporation. Thomas R. Remsen, who has occupied the position of superintendent of motive power, has been promoted to be manager of power, engineering, and maintenance. Harry Cornell, who has served for some time as factory manager, has been made resident agent.

George S. Witham, Jr., who presented his resignation recently after a long period as general superintendent of the Union Bag mills in this village, was tendered a farewell reception by officials of the company at the Halfway House, Lake George, this week. There were thirty-five in attendance at the affair and virtually every departmen of the company was represented. Addresses were made by George S. Witham Cr., general manager of the Union Bag, Thomas R. Remsen, the new manager of power, engineering and maintenance, and others. Mr. Witham was presented with a gold wrist watch in behalf of the employees, the presentation speech being made by Thomas Gitshan, superintendent of the bag factories.

George S. Witham, Jr., became associated with the Union Bag Corporation as general superintendent of the Hudson Falls plants in 1917 and during his ten years in the position effected many important improvements in plant equipment. He has invented a number of improved machines and will in the future give his entire attention to the development of improved paper mill machinery.

Kalamazoo Paper Co. Builds Turbine House

[FROM OUR REGULAR CORRESPONDENT]

KALAMAZOO, Mich., October 10, 1927.—Work is progressing steadily on the addition to the Kalamazoo Paper Company's turbine house, which, when completed, is intended to accommodate the power units that will drive the equipment in divisions two and four. That will mean that the concern's five divisions will all be electrically operated, thus effecting a very decided economy in production costs.

Chicago Paper Distributors More Optimistic

Local Market Reflects Tone of Other Lines of Industry—With Advent of October, Conditions Began to Show Signs of Improvement—Demand for Various Grades of Paper Expected to Expand From Now On—Prices Rule Steady to Firm

[FROM OUR REGULAR CORRESPONDENT]

CHICAGO, Ill., October 8, 1927.—A week of crisp fall weather following last week's depressing rains gave a more optimistic note to reports on business from various representative paper dealers in Chicago. The paper market is reflecting the tone of other lines of industry where building permits, car loadings, the money market and other barometers of trade indicate that what was needed to stimulate fall business was simply fall weather.

No pickup over the summer slump was noticed in most paper lines until the first day of October and at that time the market began to shape itself in a more optimistic fashion. Prices are exceedingly firm and if the stimulated buying that is expected continues to grow, paper dealers will be satisfied for the most part. Prices on pulp are reported as somewhat unsatisfactory. An increase in the price of sulphite bond is also reported. Book and cover papers remain practically unchanged with some promise of activity just ahead. It is expected that a demand for wrapping paper, box board, fine papers, tissues and fancy grades will start up in the very near future. Glassine paper is reported to be experiencing a very satisfactory demand.

Advertising Week

Advertising Week in Chicago is just ahead—October 17 to 22. Specialists in every field of sales promotion from six nations will attend the conventions of the thirteen advertising bodies which meet in the city that week. Most of the conventions will be held at the Stevens Hotel, Chicago's great new convention headquarters. It is estimated that more than three thousand users of advertising will be present during the week.

The Direct Mail Advertising Association has chosen its main topic as "Combating the Rising Cost of Selling" and this convention, to be held the 19, 20, and 21, will spend a good deal of its time on the subject of tying up sales letters and circulars with newspaper and trade journal advertising.

This part of the convention is of more than usual interest to paper houses making a specialty of this line of fine paper work. Master pieces in the typographers art and the latest color reproduction processes will be on display and in this connection also, paper dealers will be exhibiting their wares.

Paper is, of course, the force behind the entire system of selling and, therefore, is assured of some attention from executives to be present from all over the world.

Henry A. Wise to Address Salesmen

James Coy, president of the Salesmen's Association of the Paper Industry, has announced that Henry A. Wise, author of the "Wise Plan" under which the Import Committee of the American Paper Industry was formed, now general counsel for that committee, will be the main speaker at the annual Fall meeting luncheon of the Salesmen's Association in Chicago, October 25. The meeting will be held at a time when the National Paper Trade Association will be having its own Fall meeting and thus a number of paper manufacturers and distributors are expected to be present.

It will be the first time Mr. Wise has publicly discussed the problem of unfair competition in the paper industry since 1924, when the Import Comittee was formed. He will speak on a general subject embracing a discussion of foreign competition, with a resume of the three years' work done by the aforesaid committee in its efforts to check the evasion of custom laws by importers of foreign paper.

The Salesmen's Association, according to Mr. Coy, has done nothing of greater value to the paper industry than to take up the problem of foreign competition so vigorously that the Import Committee was formed and the industry asked to adopt the Wise Plan. It is thus fitting that Mr. Wise should be chosen to address what seems to give promise of being the best luncheon meeting the Salesmen's Association has yet undertaken.

News of the Industry

The Dwight Brothers Paper Company, of Grand Rapids, Michigan, has ceased to exist since the first of the month and that enterprising organization is now known as the Carpenter Paper Company with E. R. Carpenter continuing as secretary-treasurer and manager. No change in the personnel has been announced.

W. E. Dwight, president of the Dwight Brothers organization of Chicago and his brother originally formed the company but though the firm bore their name up until last week, no connection has been sustained between the Grand Rapids and Chicago houses for a number of years.

The National Wall Paper Wholesalers Association held its Annual Meeting at the Congress Hotel, Chicago, October 2-4. Although the convention did not officially open until Monday morning the majority of the members were in Chicago for the informal reception and committee meetings held the day previous. Justin B. Allman is president of the association and L. M. White, secretary.

The Illinois Waterway is now an assured success following the actual purchase of all land necessary and the approvement of this purchase by Governor Small. When completed, the waterway will mean a material savings in freight rates and the consumption of articles capable of being shipped by water from South to North, as sisal, etc., will be materially affected. The waterway will also afford cheaper transportation for manufactured products going from the Chicago district to southern and western states reached by the Mississippi. It will also reduce the cost of haul on foreign shipments imported through New Orleans as well as domestic products required by Northern industry and commerce. Its affect on the paper industry, while it may not be extensive, will be watched with interest.

Paper men in Chicago are mourning the death of H. W. Brightman, formerly sales manager of the Northern Paper Mills Company, Green Bay, Wisconsin, and recently western representative for the Crown-Willamette Pulp and Paper Company. Mr. Brightman died suddenly in Atlanta, Ga., following an operation for appendicitis. Mr. Brightman was well known in Chicago.

James "Jim" Coy, popular president of the Salesmen's Association of the Paper Industry, is now in the East on an extended business trip. Mr. Coy is expected back in Chicago on the 17th of the month.

H. W. Suter, Champion Coated Paper Company, Hamilton, Ohio, was in Chicago a few days during the past week.

Carleton Smith, American Envelope Company, West Carrollton, Ohio, was a caller on Chicago paper men last week.

To Teach Paper Making at Night School

[FROM OUR REGULAR CORRESPONDENT]

HOLYOKE, Mass., October 11, 1927.—Eagle Lodge of Papermakers is to request the local school authorities to establish a papermaking class at the evening High School.

Pulp and Paper Research Institute Ceremonies

James A. Robb, Dominion Minister of Finance, Scheduled to Lay Corner Stone and to Deliver Address—Laurentide Co. Acquires Large Timber Limits in Ottawa Valley—Price Bros. and Port Alfred Corp. to Take Over Quebec Pulp and Paper Mills

[FROM OUR REGULAR CORRESPONDENT]

MONTREAL, Que., October 10, 1927.—Invitations have been forwarded to members of the Canadian Pulp and Paper Association and others to attend the ceremonies in connection with the laying of the cornerstone of the Pulp and Paper Research Institute in Montreal on Thursday of this week. The actual laying of the stone will be undertaken by the Hon. James A. Robb, Minister of Finance for the Dominion, who is expected to deliver an address on the occasion, and others scheduled for remarks are Col. C. H. L. Jones, chairman of the Research Section of the Canadian Pulp and Paper Association, and Sir Arthur Currie, Principal of McGill University. Dean Carlisle, of Montreal, will offer the invocation.

The following is a list of the articles to be deposited in cornerstone: Samples of the various products produced by members of the Association; copies of current issues of the Montreal daily newspapers; copy of current issues of the PULP AND PAPER MAGAZINE OF CANADA; copies of Printed Proceedings of the last annual meeting of the Canadian Pulp and Paper Association; list of members of the Association; list of members of the Research and Technical Sections; specimens of current Canadian coins; history of the Research Building; list of subscribers to the Bond Issue to finance the building, and a Printed History of the Canadian Pulp and Paper Association.

The ceremony will be followed by a luncheon to be given in the Ritz-Carlton Hotel by the Canadian Pulp and Paper Association. L. R. Wilson, president of the Association, will occupy the chair, and the speaker of the occasion will be President H. M. Dory, of the University of Alberta, who is Honorary President of the Honorary Advisory Council of Scientific and Industrial Research for Canada.

The following description of the project accompanies the invitations to the ceremony:

"The Pulp and Paper Research Institute is intended, primarily, to provide accommodation and facilities for research bearing on the problems of the Pulp and Paper Industry as conducted in cooperation by the Department of Industrial Cellulose Chemistry, McGill University, the Pulp and Paper Division of the Forest Products Laboratores of Canada and such research workers as the Association may establish. Incidentally it will provide headquarters, also, for the Canadian Pulp and Paper Association and its varied activities. The institute was born of a desire upon the part of the industry to further scientific and industrial research, particularly in the field of cellulose chemistry, and to secure the training of men to carry on this work.

"The Chair of Industrial and Cellulose Chemistry of McGill University was instituted two years ago. It owes its existence principally to the beneficence of the late Mrs. E. B. Eddy, of Hull, Quebec, whose husband was one of the pioneers and later one of the leaders in the development of papermaking in Canada. Mrs. Eddy bequeathed to McGill University the sum of $200,000 which has been applied to the establishment and maintenance of the Chair. The revenue derived from the bequest has been augmented by grants from the University and from the Canadian Pulp and Paper Association. The occupant of the chair is Prof. Harold Hibbert, D.Sc., Ph.D.

"The Paper and Pulp Division of the Forest Products Laboratories has been in existence for some thirteen years. Its principal function is to carry on industrial and chemical research in pulp and paper. It was instituted, and is governed and controlled, by the Dominion Government. Through its Research Section, the Canadian Pulp and Paper Association conrtibutes to the support of the Division and also shares in the selection of the staff and in the direction of the work carried on. E. P. Cameron is the director in charge.

"The building, now in course of construction, is being erected from the proceeds of an issue of bonds taken up by members of the Canadian Pulp and Paper Association. The total cost, including equipment, will be not less than $250,000. The bond issue will, in addition, provide for an endowment of $100,000 to McGill University to provide in part for the building's upkeep and maintenance. The building will eventually become the property of McGill University.

"The construction of the building is a result of the activities of the Research Section of the Association, consisting of: Col. C. H. L. Jones, Chairman, Spanish River Pulp and Paper Mills, Ltd., Sault Ste. Marie, Ont.; Dr. J. S. Bates, Price Bros. & Co., Ltd., Quebec, Que.; O. F. Bryant, Nashwaak Pulp and Paper Company, Ltd., St. John, N.B.; R. W. Hovey, Nashwaak Pulp and Paper Company, Ltd., St. John, N.B.; R. A. McInnis, Anglo-Canadian Pulp and Paper Company, Ltd., Quebec, Que.; W. G. Mitchell, Price Bros. & Company, Ltd., Quebec, Que.; Jean Rolland, Rolland Paper Company, Ltd., St. Jerome, Que.; F. A. Sabbaton, Laurentide Company, Ltd., Grand Mere, Que.

"The Building Committee reesponsible for the financial program consists of L. R. Wilson, *Chairman;* George Chahoon, Jr., C. H. L. Jones, C. Howard Smith, I. H. Weldon, J. B. White, J. L. Apedaile, George M. McKee; and Edward Beck, *Secretary.*

"The building operations are being carried on under the supervision of the Canadian Pulp and Paper Research Corporation, in which L. R. Wilson, George M. McKee, C. Howard Smith, Carl Riordon and Edward Beck represent the association, and John W. Ross represents the University.

"Nobbs & Hyde, of Montreal, are the architects. E. G. M. Cape & Co., of Montreal, are the general contractors."

Laurentide Deal Confirmed

Negotiations have been completed whereby the Laurentide Company, of Grand Mere, Que., has purchased most of the timber limits of W. C. Edwards and Co., Ltd., the Hawkesbury Lumber Company and the Pembroke Lumber Company. The *Ottawa Journal,* in announcing this, says:

"As a result of this purchase the Laurentide Company acquires some 3,500 square miles of heavily wooded timber limits in the Ottawa Valley. These are mostly situated in the Madawaska district, commencing about forty miles northwest of Pembroke.

"It is understood that the plan of the Laurentide Company is eventually to commence the manufacture of pulp an paper in this district. Although one of the largest pulp industries in the Dominion, this company hitherto has confined its activities to Quebec province.

"The purchase of the three limits was confirmed to the *Journal* over long distance telephone early this afternoon by George Chahoon, general manager of the Laurentide Company. He stated his company had made no plans for any building operations in the Ottawa district, but considered the purchase as a protection and to serve as a reserve of timber for future use."

The report adds that several million dollars are involved. The Laurentide Company acquires three large saw mills in the purchase—one belonging to the Hawkesbury Lumber Company at Hawkesbury, Ont., which it takes over three years hence, and two at Pembroke belonging to the Pembroke Lumber Company and the W. E. Edwards Company.

Quebec Pulp Deal Ratified

At a meeting of the shareholders of the Quebec Pulp and Paper Mills, Ltd., held in Montreal during the week, the deal whereby

the assets of the company are sold to Price Bros. and Co., Ltd., and Port Alfred Pulp and Paper Corporation was ratified unanimously. Out of a total issued capital of 139,283 shares of preferred and common stock, 109,964 shares were represented at the meeting either in person or by proxy. The value of the securities is approximately $11,000,000 of preferred and common stock, out of a total value of about $13,500,000 of such stock outstanding.

A notice is being sent to the shareholders, advising them how to proceed with the deposit of their shares. The notice will be accompanied by a form of option, in order that shareholders may elect which of the two offers that have been submitted they desire to accept. These offers are:

(a) Forty dollars in cash and $70 in preferred stock in the new company that will be formed by the purchasers to take over Quebec Pulp and Paper Mills, Ltd.

(b) Twenty-one dollars cash and $100 in new preferred stock.

This refers to the exchange for Quebec Pulp and Paper preferred, carrying 50 per cent bonus of common stock of that company. As regards holders having no bonus common stock, they will be entitled to receive at their option $100 of the new preferred stock for a like amount of old, or $20 in cash and $70 in preferred.

Tidal Power in New Brunswick

It is stated that a staff of Dominion government engineers will visit New Brunswick to make a complete survey of the Petitcodiac and Mamramocook rivers with a view to ascertain their exact power possibilities, and with the ultimate view of utilizing the power for the electrification of the Atlantic Division of the Candian National Railways. This plan is an outcome of the prospective developments on the Petitcodiac river, by which some 200,000 hp. would be obtained by utilizing the great rise and fall of the tides of the Bay of Fundy in the river. Matthew Lodge, who is one of those interested in the project, and who is also director of the Canadian National Railways, has great faith in the project.

Meanwhile work proceeds smoothly on the development of water power at Grand Falls, N. B., by the International Paper Company. The initial development will be 60,000 hp. The work is already 65 per cent completed, and the erection of the pulp and paper mill is tc follow in the near future.

Paper Mill Nears Completion

E. A. Wallberg, president of the Lake St. John Power and Paper Company, announces that the construction of the company's mill at Dolbeau, Que., is nearing completion and that it is expected the mill will begin making paper in December next.

The town of Dolbeau, which was formed by the company, is progressing rapidly. Waterworks and sewerage systems are installed. The company's hotel has been operating for about two months. The company has also built and owns 54 houses of first-class construction. About 100 other stores and residences have been built in the town by the people in the district and many more will be built now that the railway is available for bringing in lumber and other heavy materials.

New Paper Town in Manitoba

Construction work on Pine Falls, the Manitoba Pulp and Paper Company's new model town, is practically completed, the entire outlay representing an expenditure of nearly $10,000,000. The town is on a model plan, with a sewage system, water works and electric light. There are nearly 800 employees of the Company. At the present time a community hospital is being completed with separate offices for the medical staff and a dentist. Plans are under way to erect a moving picture theatre and a two-room addition is being built to the school. In all, 106 houses have been erected by the company.

St. Lawrence Paper Earnings

The annual report of the St. Lawrence Paper Mills, Ltd., of Three Rivers, for the year ended June 30, reflects the doubling of the news print capacity of the mills, net profits for the period being up at $1,143,592 as compared with $969,695 for the previous 12 months. It is pointed out, however, that as a result of the excess capacity in the news print industry during the latter six months of the fiscal year, the full benefit of the increase in productivity was not forthcoming. As a result of the new financing during the period, the balance sheet reveals a wide improvement in net working capital, current assets being higher by about $900,000 while current liabilities are down over $100,000. The net earnings are at the rate of $3.66 a share, as compared with $4.72 in the preceding year.

Paper Companies Growing New Forests

Various paper companies in Canada are enthusiastic over the success attending their efforts at reforestation. The Laurentide Company started on this ten years ago and last year set out 3,000,000 seedlings. The Spanish River and Abitibi Power and Paper Companies also have extensive schemes of reforestation. The former has some 650,000 seedlings of white spruce rapidly pushing forward to maturity on an area that has been burned over twelve times since logging operations on it ceased.

Knowlton Stock Interests Acquired

[FROM OUR REGULAR CORRESPONDENT]

ALBANY, N. Y., October 8, 1927.—The stock interests of R. L. Pease in Knowlton Brothers, Inc., Watertown, have been acquired by five of the younger executives of the firm, A. G. Wightman, Edward W. Clarke, Oren Somerville, Raymond Boutilier, and James C. McCormack. Mr. Pease recently resigned as vice president of Knowlton Brothers to become associated with the Brownsville Paper Company, of Brownsville, N. Y. He was the holder of considerable stock of Knowlton Brothers.

A. G. Wightman is superintendent of the Knowlton Brothers' mill; Edward W. Clarke is buyer and assistant superintendent; Oren Somerville is sales and advertising manager; Raymond Boutilier is connected with the accounting department and James C. McCormack is assistant treasurer of the company. Four of the men, Messrs. Wightman, Clarke, Somerville and Boutilier become stockholders in the company for the first time. Mr. McCormack was the owner of considerable stock before the recent change.

It is understood that there will be no changes in the officers at the present time although some changes are expected to take place in January, when the annual meeting of stockholders is scheduled.

Mr. Pease, who has assumed an important interest in the Brownsville Paper Company, became vice president of Knowlton Brothers' Company early this year, coming from Kalamazoo, Mich., where he had been connected in an executive capacity with one of the Kalamazoo mills.

California Bag and Paper Plant To Be Enlarged

[FROM OUR REGULAR CORRESPONDENT]

SAN FRANCISCO, Cal., October 6, 1927.—The California Bag and Paper Company, manufacturers of paper bags, of Emeryville, Cal., is just starting the erection of an additional ten thousand square feet of floor space on the property of the present plant and at the same time are making a general rearrangement of their offices. F. A. Muller, Syndicate Building, Oakland, was awarded the contract for the work. Hugh C. White, of the same address, is the architect.

This expansion is made necessary by steadily increasing business and the installation of a battery of new Weber Self-Opening bag machines. With the proposed addition this plant will have under roof approximately two acres of ground-floor, machine room and warehouse, with still ample room for expansion on adjacent property. The amount of money to be expended on the alterations is not yet definitely decided upon.

The company was founded in 1916 by the late Walter S. Mackay, its president until his death in 1923. Since that time W. P. Hawley, president of the Hawley Pulp and Paper Company, and the St. Helens Pulp and Paper Company, has been its president.

Philadelphia Paper Trade Gradually Reviving

Local Paper Manufacturers Reported Sold From Thirty to Sixty Days Ahead—Various Grades of Fine Papers in Greatly Improved Request—Trading in Coarse Paper Market More Lively, Due to General Improvement in Business Conditions

[FROM OUR REGULAR CORRESPONDENT]

PHILADELPHIA, Pa., October 10, 1927.—Though the return of midsummer temperature sent the mercury soaring, the paper trade continued to hold to the trend of customary autumn activities. With the revival of business the distributors again took the optimistic attitude that there will be increasing demand as the remaining months of the year bring about the usual holiday briskness preceding Yuletide. While coarse papers were the most active of the list, there was a livelier demand for many of the fine papers that have been more or less laggards in the early Fall requirements. Prices on all grades of paper were firmly held and no signs of weakening were apparent.

Briskness in Coarse Papers

With improvement in the mercantile industries, the coarse paper dealers are experiencing a livelier market. While the textile industries are smaller purchasers of paper, the mercantile field is the principal outlet for Fall distribution. It is true that a few consumers of specialties in volume are still left to the Philadelphia trade, but these enterprises are chiefly linked with big corporate interests, where paper purchases are mostly through direct contact with the manufacturers. Among this group of heavy consumers of specialties are manufacturers linked with General Motors Corporation. But this type of paper consumption does not directly benefit the Philadelphia distributors. Glassine manufacturers in the Quaker City territory are oversold on the many requirements for the food and confectionery trades and for the growing demands among manufacturers and merchants for the coming holiday packing and display coverings bearing holiday designs or greetings. Kraft papers are particularly in demand for wrappings although some fancy grades have been sought for the advance holiday orders that now are being placed.

Mills Reported Sold Ahead

Paper manufacturers identified with the local territorial distribution are reported sold from thirty to sixty days ahead of their production facilities on standard lines. That the mills are enjoying a spurt of activity that indicates oversold conditions is verified by the urgent needs for paper stock. Wrapping paper manufacturers and glassine producers are the most active of the mills reported by the local trade. Fine paper manufacturers, while reporting a livelier demand, are not as prosperous as their brethren in the wrapping paper division. A few of the larger nationally known State manufacturers are working to capacity on fine grades, particularly on book papers and covers. Board mills are on full time basis and enjoying a normal Fall business. Manufacturers of roofings and builders' papers are well filled with advance orders that assure operations for several months to come.

Fine Paper Spotty

Fine paper dealers are represented as being confined to a spotty market with alternate good and fair days of business. There are growing orders emanating from the commercial printers and publishers who have been less active in the duller summer months although more effort is required to land any sizable purchases of paper. Up State demand for paper is assuming wider proportions of small lot orders for the smaller printers.

Expansion for Lang Paper Co.

While the John Lang Paper Company will remove to its newly purchased home, formerly the Pusey and Jones Ship Yard, in Gloucester, N. J., with the new year, it is proposed, according to the plans announced by the firm, to continue operation throughout the removal. The Lang company has under contract large orders for its roofing felts and building papers and so as to prevent interference with operation, the plant will be dismantled and removed in portions and at no time will the paper making machine be out of commission. The new quarters will be completed in February and at that time there will be in operation in the Gloucester Mills three paper making machines providing for an increase in production daily of 40 tons. The firm now operates four machines for its paper making requirements, but with removal to the new home the paper machines will be enlarged so as to provide for the increased tonnage on the three to be installed under the expansion plans.

New Fire Board Corporation

A special despatch to Philadelphia paper dealers announced the formation of a new corporation at Wilmington, Del., to produce fire boards, paper boards, jute board and allied products. The incorporation of the Fire Board Products, Inc., at Dover, Del., last week, with its $35,000,000 capital stock, will charter under the laws of Delaware a paper board concern devoted to manufacture and sales of these specialties. There are 410,000 shares, no par value, and 760,000 shares of capital stock, of which 100,000 shares have a par value of $100, each to be of prior preferred stock. In the no par stocks, 400,000 shares will be without normal value.

W. C. Hamilton & Son Staff Changes

Changes in the executive staff of W. C. Hamilton and Son Mills, located at Miquon, near Philadelphia, include the appointment of Joseph Dunton to the position of sales manager of the company. He succeeds Carl MacLaughlin, who is now connected with the Reading Paper Mills, of Reading, Pa., as sales manager. Sales Manager Dunton has been associated with Hamilton Mills for some time as sales representative. Raymond Kurtz, who has been identified with the mill for several years, is now assistant sales manager.

Heavy News Conversion

Having received the complete shipment of 600 tons of news print salvaged from the fire that destroyed the newspaper plant of the *Georgian*, at Atlanta, Ga., several weeks ago, the Philadelphia purchasers of the lot of salvaged paper, Goldman Paper and Stock Company, 414 S. Front street, are now engaged in converting the shipment into salable stocks in the extensive plant attached to the paper warehouses. The news print is being converted into rolls and sheets for the paper dealers and consumers.

Direct Mail Ad Convention Here

Local paper men affiliated with the Direct Mail Advertising Association have been assured of the convention for the coming year, announced by the Philadelphia Chamber of Commerce to be held in this city in Fall of 1928. This meeting will bring to Philadelphia thousands of leaders in the advertising field. In connection with the convention there will be held an interesting exhibit of paper, printing, machinery and accessories used in direct mail advertising. While no definite date has been decided upon, it is proposed that the month of October, 1928, will be selected as this has been the customary time for the convention in former years. There will be a meeting of the local associates and officers of the association shortly after the new year for the purpose of setting a definite date for the convention. Among the Philadel-

phia paper men and allies in the Graphic Arts industries who helped bring the meeting here and who will participate in the convention affairs and arrangements are: Norbert A. Considine, Paper House of Pennsylvania; George W. Ward, D. L. Ward Company; William A. Meeks, managing director of the Typothetae; William Sharpless, president of the Typothetae; Edward S. Paret, of the Biddle Paret Press, and President Charles Paist, Jr., of the Poor Richard Club.

Paper Men Join in Poor Richard Outing

Paper trade associates enrolled in the membership of the Poor Richard Club, the fraternity of advertising men of the Quaker City, joined in the Fall outing and golfing tournament held during the week at the Manufacturers Country Club at Orland, Pa. Among the paper men who captured trophies for their prowess in the games of skill and on the baseball diamond were W. W. Wilcox, of the Wilcox Walter Furlong Paper Company; President Norbert A. Considine, of the Paper House of Pennsylvania, and his brother and associate, Raymond J. Considine, who were awarded the prizes for their excellent playing on the teams headed by Karl Bloomingdale and George Shaw. The batting of the paper men won the award of half dozen cases of Mazola Oil.

Collins Mfg. Co. to Exhibit

The various paper products manufactured by the A. M. Collins Manufacturing Company, of this city, will be shown at the Stephens Hotel, in Chicago, during the annual convention of the Direct Mail Advertising Association, to be held October 19 to 21. The Collins company will have a complete display at the Stephens Hotel, to include the Laitone and new Laid-Mark cover papers and the Fabratone coated papers. The exhibit will be under the direct supervision of H. S. Foster, advertising manager of the company. A permanent exhibit of the cover papers is being maintained at the recently acquired headquarters in the central section of the city, 1518 Walnut street, to which the offices were removed for the greater convenience of patrons. The factory is to continue at the Columbia avenue address.

Paper Men Join in Typothetae Business Luncheons

There will be a well represented paper trade membership from the ranks of those enrolled in the Philadelphia Typothetae at the first of the bi-weekly meetings to be held by the Master Printers organization on Tuesday of this week. This first of the series of meetings to be held throughout the coming months will be held in the Ledger Club on the 11th floor of the Public Ledger Building, at the luncheon hour, when the attractive grill room of the *Public Ledger* will be at the disposal of the members. These meetings will continue to be held in Ledger Club bi-monthly for the entire season and with the co-operation of the chef of the Club, luncheons will be served to those attending. At Christmas time paper men and printers will join in a Christmas Party staged for December 20, when the customary "big time" of the allied industries will be given with true Yuletide spirit and setting.

In the schedule of constructive trade educational work in which the paper men will share under the auspices of the Typothetae, are the practical clases of the Sales Club. A series of talks on salesmanship with relation to paper and printing will be given by those who are in direct contact with this side of the industry. Thomas A. Furlong, Jr., of the Wilcox Walter Furlong Company, is at the head of the paper trade committee engaged in promoting the Sales Club advantages among the paper salesmen.

Paper Bag Man at Coffee Convention

Sales Manager and Vice President Gordon H. Friend, of the Thomas M. Royal Company, 7th and Grange street, paper bag manufacturers, with one of the largest plants in the East, will attend the annual convention of the National Coffee Association to be held in Chicago at the Palmer House this week. Other paper bag manufacturers who feature coffee bags extensively will also attend the three days sessions of the last half of the week.

Program for Cost Convention

The following is the complete program for the convention of the cost association of the Paper Industry to be held at the Statler Hotel, Detroit, Mich., Thursday and Friday, October, 20 and 21:

THURSDAY

Chairman—President J. H. Kline

Small Banquet Room

9:00 A. M.	Registration—All are asked to register promptly in Small Banquet Room, as a Registration Fee will be charged to cover cost of Luncheon and Dinner.
9:30 A. M.	"What Employment Supervision Means to the Pulp and Paper Industry." By J. Norman Spawn, Employment Supervisor, Champion Fibre Co., Canton, N. C.
10:00 A. M.	"Our Cost System." By Ralph B. Hersey, Hollingsworth & Vose Company, Boston, Mass.
11:00 A. M.	Discussion.
12:30 P. M.	Group Luncheon.

AFTERNOON SESSION

2:00 P. M.	"The Cost Accountant's Part in Reducing Manufacturing Costs." By L. C. Reynolds, Assistant to the President, American Writing Paper Co., Inc., Holyoke, Mass.
2:45 P. M.	Discussion.
3:15 P. M.	"Inaccuracies of Business Forecasting." By H. G. Baldwin, American Appraisal Company.
3:45 P. M.	Discussion.
4:15 P. M.	Business Session—Election of Officers for 1928. Secretary's Report.
5:45 P. M.	Reception.
6:00 P. M.	Dinner will be served sharp at six o'clock and will conclude punctually at eight o'clock. Entertainment and Music will be provided.

FRIDAY

Chairman, President J. H. Kline

Main Banquet Room

9:30 A. M.	"The Determination and Application of Machine Hour Rates in the Paper Industry." By George K. Ferguson, Watervliet Paper Co., Watervliet, Mich.
10:00 A. M.	Discussion.
10:30 A. M.	"Budgetary Control." By E. F. Bartels, Munising Paper Co., Munising, Mich.
11:00 A. M.	Discussion.
2:00 P. M.	"The Distribution of Overhead Expense to Manufacturing or Production Centers." By Roy M. Springer, Bird & Son, Inc., East Walpole, Mass.
2:45 P. M.	Discussion.
3:15 P. M.	"Analysis and Control of Cost Variataions." By Ralph Knott, Cost Accountant, Eastern Manufacturing Company, Bangor, Me.
4:00 P. M.	Discussion.

NOTICE

Forms will be distributed to all those registering at Convention as follows: R. B. Hersey, Complete set of Cost Forms; George K. Ferguson, Schedules in setting up Machine Hour Rates: E. F. Bartels, Complete set of Schedules used in drawing up Budget.

Schroon River Wages Reduced

[FROM OUR REGULAR CORRESPONDENT]

WARRENSBURG, N. Y., October 8, 1927.—Notices were posted last week in the plant of the Schroon River Pulp and Paper Company notifying all mill employees of a fifteen per cent reduction in wages, effective this week. All employees of the mill with the exception of the yard men will be affected by the reduction.

Officials of the company claim that the wage cut is necessary to allow competition with other mills manufacturing the same line of paper. They stated that the Schroon River Pulp and Paper Company is paying higher wages than any other mill in the same line.

CONSTRUCTION NEWS

A Summary of Vital Facts Regarding Construction, Finances and Operation of Paper Mills

Construction Notes

Cleveland, Ohio—The Standard Envelope Company, 1600 East 30th street, Cleveland, manufacturer of paper goods, has authorized plans for the construction of a new addition to its plant, including improvements in present factory. The new structure will be one-story, 80x110 feet, and is reported to cost about $50,000. Christian, Schwarzenberg & Gaeda, 1900 Euclid Building, are architects and engineers, and will ask bids at an early date.

Port Townsend, Wash.—The Rainier Pulp and Paper Company, Seattle, Wash., a subsidiary of the Zellerbach Corporation, San Francisco and Sacramento, Cal., has taken title to a tract of about 250 acres of tide land and upland property at Port Townsend as a site for a proposed new paper mill, for which plans have been in progress for a few months past. Foundations will be laid and superstructure begun at an early date; the mill will be equipped for an initial output of about 150 tons per day and is estimated to cost in excess of $2,500,000, with machinery. V. D. Simons, 435 North Michigan avenue, Chicago, Ill., is engineer; Baar & Cunningham, Spalding Building, Portland, Ore., are consulting engineers.

Los Angeles, Cal.—The Western Wax Paper Company, 920 East 61st street, has awarded the general contract to the William P. Neil Company, 4814 Loma Vista avenue, for extensions and improvements in its plant, to provide for increased production. The work is reported to cost about $18,000, and will be placed under way immediately.

San Jose, Cal.—Blake, Moffatt & Towne, 41 First street, San Francisco, paper goods, will take bids at once for a proposed new branch on the block bounded by North San Pedro, Bassett, Perrane, and Julian streets, San Jose. It will be one-story, to be used largely for storage and distributing service, reported to cost in excess of $70,000, with equipment. John D. Galloway, First National Bank Building, San Francisco, is architect and engineer in charge.

Chattanooga, Tenn.—The Star Box and Printing Company, 17th and Chestnut streets, has plans maturing for a proposed new plant on site recently acquired, 200x300 feet. The first unit, one-story, reinforced concrete, is estimated to cost close to $100,000, with equipment and it is proposed to begin erection at an early date. Closely following, the company will proceed with other units, the entire project to represent an investment of approximately $350,000, with machinery.

East Liverpool, Ohio—J .Clair Smith, treasurer, the East Liverpool Paper Box Company, foot of Washington street, has acquired a controlling interest in the company, purchasing the stock of R. J. McElravy, president and general manager, and associates. Mr. Smith will become president of the company and plans are under way for general expansion in the line of pasteboard cartons for shipping service, etc.

Minneapolis, Minn.—The McGill Paper Products Company, 700 Sixth street, south, has completed plans and will proceed with the construction of a new addition to its plant to provide for large increase in present output. It will be four-story and basement, 158x200 feet, brick and reinforced concrete, with total floor space of about 100,000 square feet, all of which will be given over to production. The unit is estimated to cost close to $150,000, with equipment, and will be located at Seventh avenue, south, and Fifth street. A general building contract has been let to the Stahr-Burgum Company, Metropolitan Bank Building, Minneapolis.

Dalhousie, N. B.—The International Paper Company, Pershing Square Building, New York, and Montreal, Que., has authorized detailed plans for a proposed new pulp and paper mill in this vicinity, for which surveys have recently been completed, and it is understood that work on the project will begin at an early date. The new plant is reported to cost more than $3,500,000, with machinery.

Edmundston, N. B.—The Fraser Companies, Ltd., has arranged an expansion and improvement program in its different pulp and paper mills in Canada, to include the construction of new units and the installation of considerable additional equipment for large increase in present output. The program covers work now under way at the main mill at Edmundston, and at the plant at Madawaska, Me., the latter being operated by a subsidiary known as the Fraser Paper Company, Ltd. This work is scheduled for completion during 1928, and will provide for an annual output of about 130,000 tons of sulphite pulp and paper products. The company has arranged for a bond of $5,000,000, a portion of the proceeds to be used in connection with the expansion program. Archibald Fraser is president.

New Companies, Etc.

Wilmington, Del.—The Fort Madison Paper Company, care of the Corporation Trust Company of America, duPont Building, Wilmington, has been chartered under Delaware laws, with capital of 1000 shares of stock, no par value, to manufacture paper goods.

Los Angeles, Cal.—The Paper Mills Agency Company has been incorporated with a capital of $75,000, to deal in paper goods of various kinds. The incorporators are H. A. Fitzjarrell and R. E. Gick, both of Los Angeles.

Providence, R. I.—The American Envelope Company, 1495 Broad street, has filed notice of organization, to manufacture envelopes and other paper specialties. Arthur L. Artesani, 11 Cyr street, heads the company.

Slatington, Pa.—The Slatington Box Manufacturing Company has been incorporated with a nominal capital of $5,000, to operate a local plant for the manufacture of paper boxes and containers. Arthur H. Kraus, Slatington, is treasurer and representative.

Indianapolis, Ind.—Beach & Arthur, Inc., has been incorporated with a capital of $100,000, to manufacture and deal in paper products. The incorporators are Richard W. Beach, William H. Arthur, and David H. Jennings, all of Indianapolis

Kalamazoo, Mich.—The Kalamazoo Stationery Company has been organized to manufacture and deal in writing paper.

New York Trade Jottings

John Bergstrom, of the Bergstrom Paper Company, Neenah, Wis., was a New York visitor early this week.

* * *

B. Ullstrand, chief chemist of the Brown Company for the last four years, sails for Sweden next Monday to begin his new duties as chemist to the Marma Company, of Soderhamm, Sweden.

* * *

The Hill Clutch Machine and Foundry Company, of Cleveland, Ohio, has opened metropolitan district offices at 30 Church street, New York, Room 528, in charge of Charles C. Phelps, sales engineer.

* * *

R. Bell-Irving, mill manager of the Powell River Company, Ltd., of Powell River, British Columbia, who has been making an extended inspection trip of the eastern paper mills, returned from New York to the Pacific Coast on Monday.

* * *

An interesting discussion of business conditions in the paper trade took place at the regular weekly luncheon and meeting of the New York Division of the Salesmen's Association of the Paper Industry, which was held at the Canadian Club, New York, last Monday.

* * *

The Mathieson Alkali Works, Inc., of 250 Park avenue, New York, announce that F. H. Lovenberg, formerly in charge of the St. Louis district sales territory, has been assigned to the New England district sales office, Providence, R. I., replacing C. J. Clegg, whose resignation has been accepted.

* * *

Walter Sennhauser, formerly mechanical engineer for Sulzer Brothers, Ltd., Winterthur, Switzerland, arrived in New York, September 26 to assume his new duties as chief engineer of the Dry Quenching Equipment Corporation. This company is a new subsidiary of the International Combustion Engineering Company of 200 Madison avenue, New York, and was organized to exploit the recently acquired American rights to patents covering the Sulzer System for dry quenching coke.

Cassius N. Weichard Dead

[FROM OUR REGULAR CORRESPONDENT]

CARTHAGE, N. Y., October 10, 1927.—Cassius N. Weichard, widely known in the Northern New York paper industry, died at his home here after an illness of several weeks. Mr. Weichard, who is 63 years old, was superintendent of the converting department of the National Paper Products Co.

The latter part of July Mr. Weichard left for the Thousand Islands for his annual vacation and while there was taken ill. He returned to his home but his condition continued to decline until the end.

The deceased spent practically his entire life in the paper industry. At the age of five years he came to Carthage with his parents and spent his boyhood here. His first position was as a paper mill worker and when a young man he went to Plattsburg, N. Y., to accept a paper mill position. Later he became manager of the mill of the A.P.W. Paper Company, of Albany, serving in this capacity for ten years. In 1911 he became superintendent of the converting department of the National Paper Products Company and continued in this position until his death.

Mr. Weichard was prominently identified with all community activities in Carthage. He was a prominent Mason, a Past Noble Grand of the Odd Fellows, and a member of the Eagles. The survivors include his widow and two sisters.

Charles Sumner Bird Dead

BOSTON, Mass., October 9, 1927.—Charles Sumner Bird, president of Bird & Son, Inc., for fifty years a paper manufacturer, died tonight at his home in East Walpole at the age of 72. He had been ill for two years.

He leaves a widow, for many years a leader among Republican women in Massachusetts; a son and two daughters.

Mr. Bird was born on August 18, 1855, at East Walpole, son of Francis William Bird and Abby Frances (Newell) Bird. He attended the Walpole public schools and prepared for college at Phillips Andover Academy, graduating from Harvard in 1877.

It was his intention to become a lawyer, but in view of the fact that his father's business at East Walpole as a paper manufacturer had become disorganized, it became necessary for him to take part in its rehabilitation.

The mill had been operated continuously since 1812 for paper making. In 1834 Francis William Bird, long a public figure in Massachusetts and widely known as "the sage of Walpole," purchased the property. He continued the business under his own name until 1877, when his son, Charles Sumner, entered the firm.

Mr. Bird worked as a day laborer in different departments for two years to familiarize himself with the processes. In later years, as president of "Bird & Son, Inc.," he acquired mills at Phillipsdale, R. I., Hamilton and Pont Rouge, Canada, and Chicago.

An idea of the business done by the Bird mills was furnished in 1924 in the statement that more than 50,000 tons of rags were being purchased annually to feed the mills at Phillipsdale and Pont Rouge.

In 1903, when the only mills owned by the firm were at East Walpole, Mr. Bird established three shifts of eight hours each, in place of two of twelve hours without reducing wages. Feeling his business was handicapped by competitors less liberal in their treatment of workmen, he was strongly in favor of legislation, both State and Federal, abolishing the twelve-hour day in all factory employments.

Mr. Bird was originally a Democrat. In 1912 he joined the Progressive Party and made generous contributions to its campaign. He became an enthusiastic supporter of Theodore Roosevelt and was selected to represent Massachusetts on the National Roosevelt Committee at Chicago. In both 1912 and 1913 he was the Progressive nominee for the Governorship of Massachusetts, but was defeated.

He favored the abolition of industrial warfare by means of a joint board, or "internal court," made up of representatives of employers and employees for the arbitration of differences.

Paper Mill Charged With River Pollution

[FROM OUR REGULAR CORRESPONDENT]

INDIANAPOLIS, Ind., October 10, 1927.—An affidavit prepared under the direction of Walter Shirts, attorney for the Indiana Fish and Game Bureau, and the county prosecuting attorney, has been filed in the circuit court at Marion, Ind., naming the Fort Wayne Corrugated Paper Company, of Hartford City, Ind., as defendants and charging the company with pollution of the Mississinewa River.

The hearing will be held toward the last of October. It is said, if found guilty, the paper company will be subject to a fine of not less than $50 nor more than $1,000 according to state laws, for each offense. Officials of the department of conservation have been investigating the river conditions for some weeks.

Officials of the Hartford City Paper Company and the Eaton Paper Company, also in that city, have both erected steeling ponds and screens to prevent pollution as far as possible, it is said. It is not known here what steps the Fort Wayne Corrugated Paper Company has taken to prevent stream pollution.

Power Plant Section

To Promote the Most Efficient and Economical Distribution of Power

Reducing Power Costs Through Unit Treatment

Conducted by REGINALD TRAUTSCHOLD, Consulting Engineer

Ways of Handling Ashes Economically

Probably one of the meanest jobs about the steam power plant is that of handling and disposing of the ever accumulating ashes. Unless the power plant happens to be very favorably situated in respect to local or easily reached markets for ashes, which is not very apt to be the case in the instance of a paper mill plant, the ashes are largely refuse with little or no value. Nevertheless, they have to be collected continually and some disposal made of them. The incident expenses cannot be shirked and wherever itemized operating costs have been maintained it has been been shown that ash disposal frequently accounts for no inconsiderable power plant burden.

An Interesting Side Light

The disposal of ashes is essentially a material handling undertaking and as such it is an interesting sidelight that out of a fairly comprehensive list of material handling equipment manufacturers all of which have had more or less experience in installing systems for ash handling, over 60 per cent either did not care to supply any information on the subject, or could not do so or even requested that no attention be taken of specific installations of theirs which presumably had failed to give satisfaction. Since these manufacturers would certainly have been pleased to have had the successful ash handling equipment installations in any industry whatever investigated, it is evident that the far seeing paper mill cannot afford to muddle along with the ash handling problem as the power plants of other industries apparently have had to do. Successful ash handling systems, systems which effected very substantial reductions in costs of previous methods of handling the ashes, have been made, however, in the paper production trade and other fields and with these, consequently, the paper mills should be very much concerned.

The distinctly corrosive characteristics of wet ashes, the penetrating proclivities of fine ash dust, which has so often led to excessive equipment depreciation through abrasive destruction, and the frequently high temperatures of the ashes handled have had the effect of limiting the successful ash handling system very largely to one of three general methods; the mechanical, in which ash cars, lorries or some variety of collecting conveyor are used in connection with a skip-hoist rig; the steam jet system; and the sluicing method. Each of these systems has much to commend it, each has been successfully applied to paper mill power plant service and each deserves the careful consideration of every paper mill plant which in analysing its power costs finds that disposing of its ashes costs too much.

These broad claims are made advisedly, for while other ash handling systems have been employed successfully and to greater or less advantage in certain paper mill power plants, it is believed that the three systems mentioned have to their credit the majority of effective, long lived and economically operated installations. These systems are relatively inexpensive to install, are characterized by low maintenance costs, can be operated cheaply and demand little attention. Furthermore, they entail the use of no complicated equipment, are notably free from interruptions and can be made virtually automatic in operation.

Mechanical Ash Handling Systems

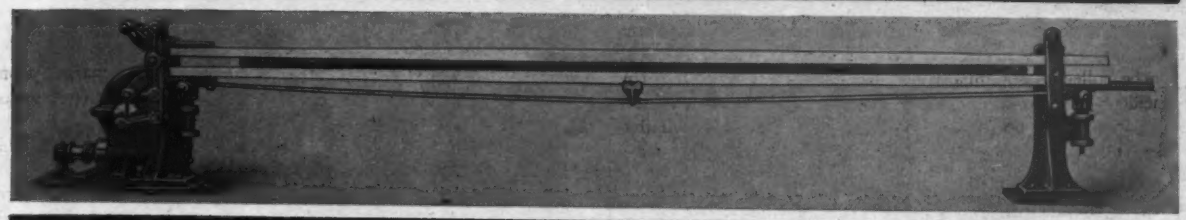
The mechanical system, built around the effective, simple skip-hoist, is unquestionably one of the best and most commonly employed methods of ash handling. The skip-hoist rig, charged from ash cars, electric lorries or other variety of conveyor passing under and collecting from ash pit hoppers, in combination with an overhead storage bunker to which it discharges and from which the ashes can be delivered by gravity to railroad cars, wagons or trucks for final disposal, possesses a number of distinctive advantages in ash handling service. It is little affected by the grit, heat or corrosive water, agencies which are extremely destructive to other mechanical ash handling systems, since only the collection car and the skip bucket come in contact with the ashes. It handles with equal facility, large clinkers, soot, or dust; hot ashes or cold, wet or dry; and should fire bricks become dislodged, broken grate bars fall into the ash pit, pieces of slag or chunks of slate, anything which can pass through the ash pit hopper gate, such obstructions can be carried away and will not clog the system.

The system is very economical in the use of power, since power is consumed only while the rig is in productive operation, and its simplicity insures high mechanical efficiency and long life. There are many cases on record where not only thousands of tons of ashes have been handled without failure of the system, but no repair expenses have been contracted in years of exacting service.

So far as the operation of the loading gates and the bunker covers is concerned, the moving skip does all the work and the control of the hoist itself can be made fully automatic, semi-automatic or manually operated, though in ash handling service the semi-automatic type of control is usually employed. The operator loads the skip bucket and presses a button. The skip ascends, discharges its contents, descends and awaits the next load in the skip-hoist pit. In the meantime, more ashes may have been collected and the skip is reloaded and again started on its journey. The manually operated arrangement requires a little more attention on the part of the operator, while the fully automatic type simply avoids the necessity of starting the skip on its travels each time it is loaded.

Another advantage which has tended to build up the great popularity of the skip-hoist as an ash handling rig is that the same skip-hoist can be used to elevate coal to overhead bunkers or for gravity discharge to ground storage. An interesting installation of this character is at the plant of the Fitchburg Paper Company, Fitchburg, Mass. Here, the ashes are collected from the ash pits in cars and dumped directly into the skip bucket. The hoist elevates and discharges them into the skip bucket. The hoist elevates and discharges them into a commodious bunker of some 15 tons capacity, from which they are periodically drawn off by gravity into wagons or trucks for final disposal. The coal supply, which comes to the plant by rail, is discharged into a track hopper from which it is loaded into the skip bucket through an automtaic load-

The Alexander-Youngchild Wire Cleaner



Reduces the number of showers

The Alexander-Youngchild Wire Cleaner does the work otherwise attempted by a large volume of shower water.

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ing gate. The coal is then elevated and delivered through a coal crusher to a 70-ton overhead bunker or else is by-passed over the railroad tracks to the near end of the ground storage, over which it is subsequently distributed by a type of cable drag-scraper conveyor. The same conveyor, in reclaiming the coal from storage drags the stored fuel to the track hopper, from which the skip bucket takes it to the bunker storage via the coal crusher.

This particular installation, which complete costs some $49,000.00 to install, is said to effect an annual saving in ash disposal and coal handling expenses of $7,089.00. This is at the rate of a net annual yield, or return, on the investment of 14 per cnet. The records do not show what proportion of the savings effected may be attributed to economies realized in ash handling, but they are without doubt quite considerable.

Among other installations where both ashes and the coal supply are handled by such skip-hoist rigs are those at the Waldorf Paper Products Company, St. Paul, Minn., the Stevens & Thompson Paper Container Company at Walloomsac, N. Y. and the International Paper Company, Piercefield, N. Y. At the Cherry River Paper Company, Richmond, W. Va., both the ashes and coal supply are handled by skip-hoists, but separate rigs are employed for the two services. A slow speed skip-hoist, with a skip, or bucket, of 20 cubic feet capacity, operating at 75 feet per minute, handles the ashes, delivering to a 100 ton cylindrical ash bunker, 16 feet in

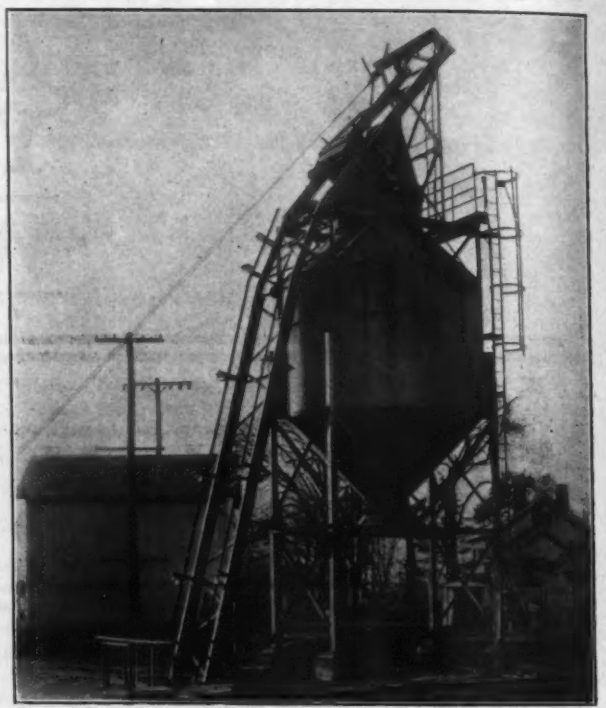
Courtesy R. H. Beaumont Co.

SKIP BUCKET DISCHARGING INTO ASH STORAGE BUNKER

diameter. This reservoir for the ashes discharges directly to railroad cars. The coal skip-hoist operates at a considerably higher speed.

At the Fitzdale Paper Company, Fitzdale, Vt., and the Megargee Paper Company, Edgely, Pa., 20 cubic foot capacity skip-hoists deliver the ashes collected by ash cars to 50 and 100 ton storage bunkers respectively, from which the ashes are discharged by gravity to railroad cars. An ash skip-hoist rig with a bucket of 40 cubic feet capacity and operated at 75 feet per minute stores the ashes in a 100 ton cylindrical bunker prior to their being loaded by gravity into railroad cars at the plant of the Minnesota & Ontario Paper Company, Kenora, Ont. The Patterson Parchment Paper Company, Passaic, N. J., Bryant Paper Company, Kalamazoo, Mich., and the Champion Coated Paper Company, Hamilton, Ohio, make use of similar ash handling ship-hoists with bunker storage, as do many other well known paper mills.

In other mills employing skip-hoists and overhead storage bunk-



Courtesy R. H. Beaumont Co.

20-CUBIC FOOT ASH SKIP-HOIST CHARGING A 3,000 CUBIC FOOT ASH BUNKER FOR SUBSEQUENT DELIVERY OF ASHES TO TRUCKS. H. W. JOHNS-MANVILLE CO., MANVILLE, N. J.

ers, the ashes discharged from the stokers are stored temporarily in cast iron ash hoppers controlled by water collecting ash gates. Lorry cars are run under these gates once or twice a day and carry the accumulated ashes to the skip-hoist for elevation to the overhead storage bunkers. In other cases, the lorry cars are run directly out on the property and dumped, the ashes being used for fill.

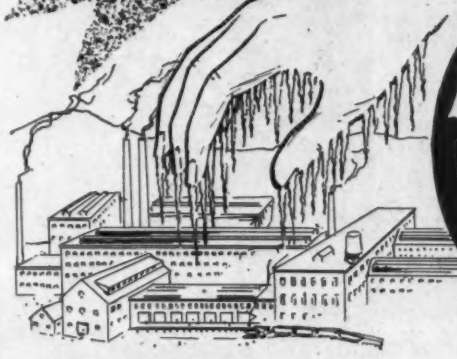
Some idea of the capacity of these systems may be gathered from the fact that a 36 cubic foot traveling lorry or ash car operated at 400 feet per minute on a 100 foot overall haul can handle from 25 to 27 tons of ashes an hour for the extreme haul and twice as much for the average haul, allowing for filling and dumping time requirements. A balanced skip of two 100 cubic foot buckets, one going up which the other is coming down, can handle 170 tons of ashes an hour on a 75-foot lift.

As for power requirements, a 20-cubic foot skip requires a 7½ horsepower motor when handling 10 tons of ashes an hour, making such power demand when going up fully loaded, but consuming no power on its return. Another peculiarity of the skip-hoist arrangement is that the power demand at constant elevating speed is substantially unaffected by the height of the lift.

These citations of specific skip-hoist installation for handling ashes and the meager operating statistics presented very far from cover the subject of mechanical ash handling systems in paper mill plants, but they should serve to explain in some measure the well deserved popularity of the system among paper mills.

Little has been said about costs for the reason that in very few instances have dependable records been maintained of the economies really effected. However, one prominent manufacturer of this type of ash handling systems states that the average cost, including electric wiring and foundations, a skip-hoist rig with a 20 cubic

and again—this coming winter



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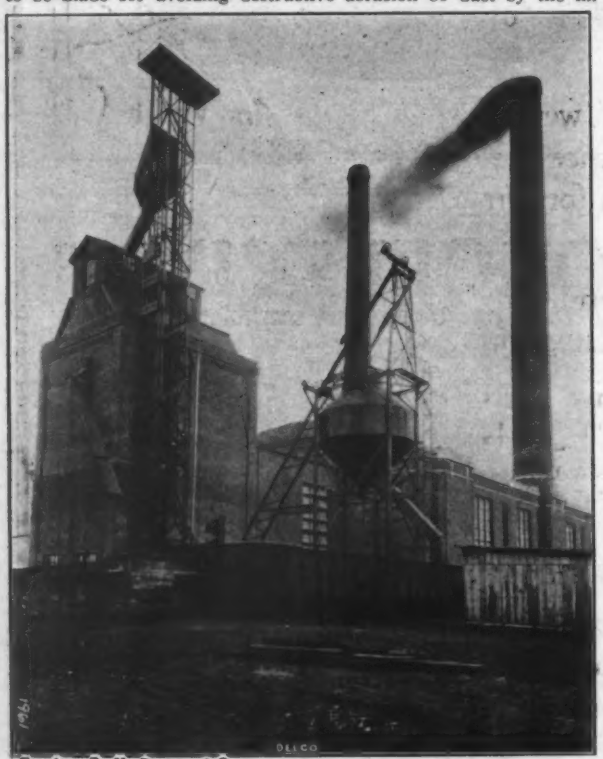
foot skip bucket, a 75 ton storage hopper, ash car and necessary trackage, all equipment erected and ready t run, is in the neighborhood of $7,500.00.

Steam Jet Systems

The ash disposal system depending upon the rapid rush of relatively large volumes of air through a confining duct, or pipe, under the ash pits, brought about by liberating high velocity steam jets within the duct and in the direction of travel, between the points of loading and discharging the ashes, has also found considerable favor in the paper mill power lant. The ashes, which have simply to be raked to an ash intake, one of which is provided for each boiler served, are carried through the pipe duct at high speed, suspended in the rushing air, and discharged into a commodious outside storage tank, where they lose their momentum and are effectively quenched.

The system is certainly simple, the operating of a steam valve sets the equipment in operation and raking the ashes to the ash intake at each boiler loads the conveyor, and within its proper capacity limits highly efficient. It is also an extremely cleanly one for all ash dust, soot and obnoxious gases are instantly sucked into the conveyor duct, as well as the hot air and fumes which so commonly contaminate the atmosphere of the boiler room.

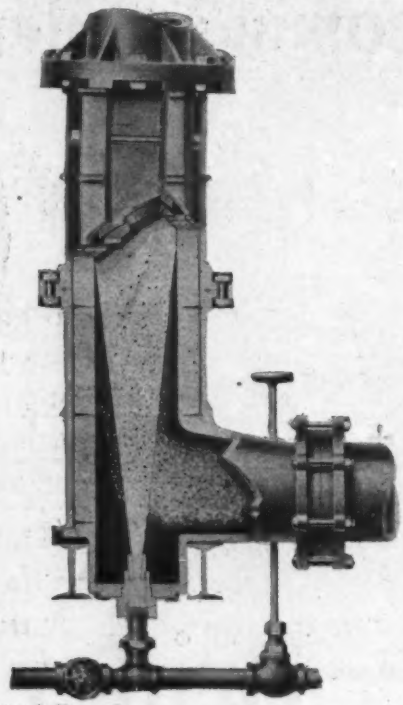
There are, of course, many exacting requirements and provisions to be made for avoiding destructive abrasion of duct by the impingement of flying ashes, particularly at elbows and wherever the direction of the conveyor duct changes between the section below the ash pit floor level and the elevated end of the duct discharging into the overhead storage tank, for regulating the admission of the correct volume of carrier air, for crushing clinkers and large cinders, and numerous other technical details of moment. These, however, have all been pretty successfully taken care of and need not be discussed here.



Courtesy R. H. Beaumont Co.

Separate Skip-Hoists for Ashes and Coal. Ash Bunker Delivers Both to Railroad Cars Direct and to Trucks by the Projecting Chute

It is of more interest to describe briefly some specific installations of the steam jet system, such as that at the plant of the Ward-low-Thomas Paper Company at Middletown, Ohio. The conveyor duct in this case is of the 8-inch pipe size, which is about the limiting practical duct diameter, and while rated as a 5 ton per hour system the duct is capable of handling as high as 7½ tons of ashes in the hour. The conveyor system serves a battery of four boilers, the duct being installed in a trench running along the front of the boilers, then rising and discharging into a large outside ash storage ank, or hopper.



Courtesy George J. Hagan Co.

Heavy Duty Steam Jet Elbow. Actuating Agency in the Steam Jet System of Ash Disposal

The steam consumption is at the rate of some 2,400 pounds per hour at 120 pound gauge pressure, or rather less than 500 pounds of steam per ton of ashes handled. This quite moderate steam ocnsumption gives a very good idea of the cost of operating this system of ash disposal, for the overhead burden is also quite low. The equipment cost, exclusive of the ash storage hopper, installation charges, steam and water piping and fittings, was a matter of only some $1,800.00. Similar installations have effected such economies in operating costs that the entire investment entailed has been wiped out by the savings realized in less than a year's time.

Three such systems are installed in the plants of the American Writing Paper Company. Installations of steam jet ash disposal systems, not unlike the ones already mentioned, are also giving good accounts at the plants of the Waterway Paper Products Company, Chicago, Ill., and at the mill of the Continental Paper Bag Company at Watertown, N. Y. This latter installation is particularly interesting in that the discharge run of the conveyor duct is unusually long and elevated to clear a span of several railroad tracks before it discharges to the ash storage hopper.

This calls attention to a little appreciated characteristic of this distinctive ash disposal system which it might be well to mention before considering the third class of the approved systems said to be deserving the careful consideration of the paper mill burden with ununduly high expenses for handling ashes. That is, that after the necessary rush of air through the conveyor duct has once been created there is very little difference in the cost of handling ashes over a given span or over a considerably greater distance. This is owing to the facts that in the well installed system no air can enter or escape from the conveyor duct between the last intake and

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the discharge end of the duct and that there is not sufficient frictional resistance to the passage of the laden on-rushing air column in the conveyor duct of any feasible and practical steam jet system to reduce materially the velocity of this rapidly moving air carrier, or to permit the precipitation of the suspended as s. As in practical aviation, the flying particles are carried on what is to all intents and purposes a solid air column, affording quite substantial support to the material carried in suspension.

High Velocity Sluice Method of Ash Disposal

The third system of handling ashes, that by high pressure water sluicing, is of distinct and particular interest, for the essential equipment which has now been pretty well standardized for the service is, in approved form, of quite recent development. In fact, while this method of handling ashes has been employed with quite marked success in other industries, principally by the electric utility stations, for a number of years, it has been only about a year that any installations have been made in paper mill power plants. During this year, however, considerable activity has been apparent and much interest displayed by mills searching for cheaper and more efficient ash handling systems.

Shorn of technicalities, the system consists simply in collecting the ashes as they drop from stokers or grates in suitable ash pit hoppers, from which they are periodically delivered by a special type of hydraulic feed into a high velocity sluiceway, the water velocity in which, with water supplied at 100 pounds pressure in the direction of travel, approximates 130 feet per second. By feeding the ashes in proportion to the carrying capacity of the water, as is assured when they are fed to the sluiceway by the same means by which they are carried through the sluiceway, all choking or damming up of such passageway is avoided and the high water velocity carries the grate refuse without permitting it to sink and slide or roll along the bottom of the sluiceway.

The system is really very economical in the use of water, from 3 to 5 pounds only of water at the high velocity employed being required per pound of ashes removed. Furthermore, water has to be supplied only intermittently, when the sluiceway is in actual effective service, so the power required for water pumping is also small. Exactly how economical the process is may be appreciated from the fact that in condensing steam engine or turbine operation from 500 up to 1,000 pounds of condensing water are required for each pound of steam condensed. Since the use of condensing prime movers, entailing the use of 500 or more times as much water for condensing purposes as that needed to sluice the ashes resulting from the combustion of the necessary fuel for the generation of the steam condensed, invariably pays, when the value of exhaust steam does not offset the greater steam economy of condensing power service, the water expense burden in the high velocity sluice method of ash disposal is indeed negligible.

Installations of High Velocity Sluice Systems

Several installations of these high velocity sluice systems are being made at paper mill plants at the present time, or have recently been completed, so a brief reference to these is of timely as well as pertinent interest. While actual operating costs cannot as yet be submitted, the fact that such installations are in the limelight should command the attention of mill engineers and superintendents. The three installations which will be mentioned are, furthermore, all in progressive establishments in Canada.

At the new Limoilou Mill of the Anglo-Canadian Pulp and Paper Company, at Quebec, three 1,000 horsepower boilers, fired by underfeed stokers equipped with grinders, are being served with the high velocity sluice method of ash disposal. The sluiceway carries the ashes to a small sump in the boiler house, from which they are pumped by a centrifugal some 2,000 feet to fill about the property. An interesting feature about this installation is that during the summer months there is a brisk and heavy demand for the ashes from the grinder-type underfeed stokers, which it is the intention of the mill to cultivate. There is no such demand, or any demand in fact, during the cold weather. After the fill is made on the property, the ashes will be piled up on the plot, several thousand tons so accumulating, and sold during the open months to contractors for the manufacture of cinder blocks and the like.

It is estimated that the total cost of handling the ashes from the three boilers served, in the neighborhood of 20 tons a day, will not exceed for direct operating charges the surprisingly low figure of 8 cents per ton. This figure, it is believed, will amply cover the cost of the power needed for pumping, such attendance as may be required for handling the ashes and the entire maintenance of the system. The Bachus-Brooks Company for its New Mill Extension at International Falls has installed the system for handling the ashes from its pulverized fuel fed boilers. The ashes collected at the sump by the high velcity sluiceways are pumped and distributed about the property of the mill.

Another installation is being made at he Lake St. John Power and Paper Company's new mill near Roberval, Que. This plant is also fired on pulverized fuel and the standard procedure will be followed in sluicing the ashes to a sump conveniently located in the boiler house. From this point, the material will be hauled by grabbucket and industrial locomotive cranes for its final disposal.

At a chemical plant in New Jersey, where the conditions are not dissimilar to those pertaining about the usual paper mill power plant, ten boilers, the caring of which had been by an ash disposal system which had been outgrown and proved inadequate and too expensive to retain, are now being served by a high velocity sluice system installation. About 60 tons of ashes a day are handled, being pumped from the sump by heavy duty centrifugals a distance of half a mile or so and utilized for filling in low lying land. The annual savings effected by the sluice method of ash disposal is said to run around $20,000.00 at this plant, despite the comparatively low daily tonnage handled. This means a saving of something over a dollar a ton in the previous average ash handling expense.

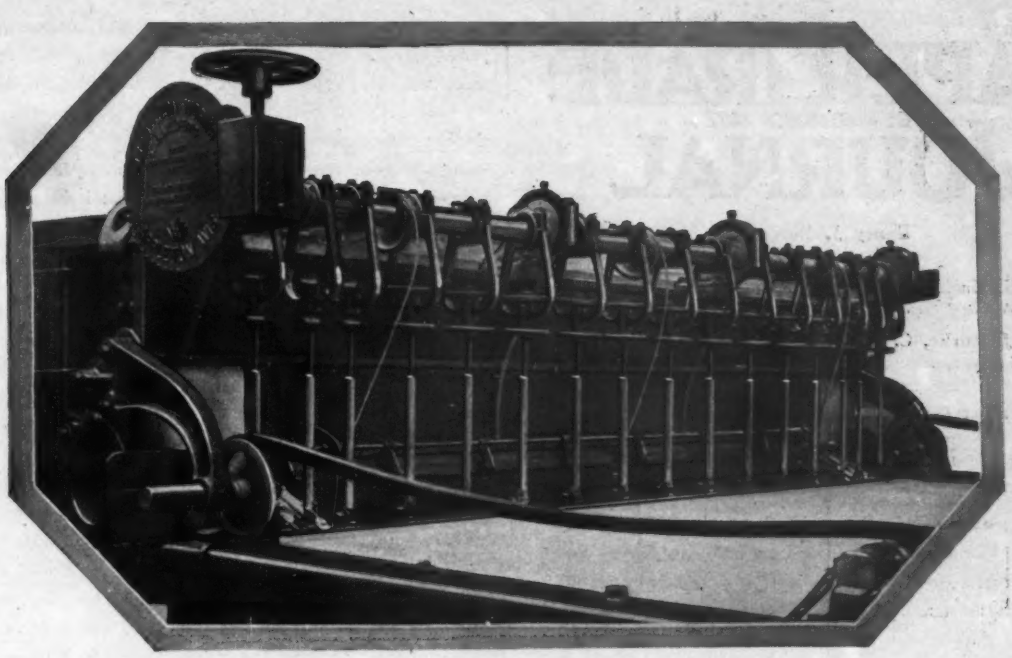
In submitting this brief outline review of three demonstrated low-cost systems for economically handling ashes about the paper mill power plant, it has not been feasible to present any great amount of cost data or to show anything much in the way of detailed records of savings their use has brought about. Such statistics and information have simply not been available. An attempt has been made, however, to present a sufficient number of pertinent expense factors to enable the progressive mill to form some reliable, general idea of whether a change in its ash handling methods promises to effect economies of interest. Also, to suggest by citation of a few examples of successful installations within the industry of ways of handling ashes economically.

No Slump in Sight

During the first seven months of this year business showed a very small return, but there has been an increase in prices during the past three or four weeks, according to reports received by Secretary of Commerce Hoover. The country has been going through a kind of business slump since last March, the Secretary believes, and the fact that this has not been more generally felt is a good sign of the stability of business. If this analysis is correct, the Secretary believes that it is the most hopeful sign for business during the past decade. The tide is turning now, he thinks. On the whole, according to Mr. Hoover, business is good. There is no great accumulation of goods and not much unemployment. There is no slump in sight, as we used to know a slump, the Secretary thinks. There is ample credit and farm products are bringing higher prices, which means that the buying power of the agricultural sections will be larger.

Kalamazoo Paper Co. Improves Machine Room

KALAMAZOO, Mich., October 10, 1927.—The Kalamazoo Blow Pipe Company is building two large sheet steel and asbestos hoods to cover the machines in the No. 3 division of the Kalamazoo Paper Company. Each one will be approximately 80 by 20 feet in dimensions.



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The Deckling-In Device on the Voith Inlet allows the operator to deckle-in *while the paper machine is running.*

This important feature further increases the already high production efficiency of the Voith Inlet, so that now the former inconveniences are overcome. A mill making up short orders will find the Voith Inlet, equipped with our Deckling-In Device, exactly the equipment for more production of better paper.

The Deckling-In Device is a new advantage with the Voith Inlet—not an innovation in paper making. Let us tell you more about this appliance. Mills now equipped with Voith Inlets are especially urged to secure details of the Deckling-In Device. Write for complete information today.

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SOLVING FOREST TAXATION

Pulp and paper men generally will be interested in the manner in which the state of Wisconsin is trying to solve the difficult problem of forest taxation which is partly a problem of how to support local government while forest taxation is deferred until income is realizable. Mr. R. B. Goodman, chairman of the Forestry Committee of the Northern Hemlock and Hardwood Lumber Manufacturers Association and a director of the National Lumber Manufacturers Association calls attention to some interesting features of the new forest taxation law of the state. This law recognizes that the forest is a growing crop and that the old real estate method of taxing forests annually, places such a heavy burden on the timber owner that he is forced to liquidate by cutting the entire forest in one operation, leaving idle and unproductive land. "To make it possible for him to cut only the mature timber, leaving the young timber to grow to maturity and to make it possible for him to plant trees on cutover land, the bill levies a forest tax, not annually, but when the timber is cut, and the tax is fixed at 10 per cent of the value of the stumpage severed from the land. Hence this tax is often called a 'severance tax'.

"It is obvious," says Mr. Goodman, "that such a system of taxation, while correct in principle, would work a hardship to the local taxing districts where the timber is located. These northern towns and counties need money principally for building roads and maintaining schools. They were already under the old tax system. When the timber owner cut down the forests he could no longer afford to pay a land tax on the cutover land and over two million acres of cutover land now stands delinquent on the tax rolls of northern Wisconsin. The new forest tax law provides that the land entered under it shall pay in addition to the 10 per cent severance tax, an annual land tax of 10c per acre. This goes to the local taxing districts and the State advances an additional 10c an acre to these local districts for all lands entered under the act, for which advances the State is reimbursed by its collection of the severance tax when the timber is cut.

"This is very briefly the principle of the forest tax law and points a solution to the aggravating tax problem which confronts the northern counties of the State. Under the act the forests which were a disappearing source of revenue will become a growing and increasing source of revenue. Annual taxation of the forest made the growing of trees an impossible commercial enterprise. Under this form of taxation the forests of Wisconsin were rapidly disappearing, but under the act of the normal tax to the owner of 10 cents per acre and the exemption of growing timber from taxation until the mature trees are harvested, makes the growing of trees a commercial possibility and we confidently believe will induce the owners of wild land throughout northern Wisconsin to grow new forests.

"What this means to Wisconsin may be faintly appreciated when we remember that the sawmills, planing mills, wood pulp and paper mills, and the wood using industries of the State aggregate an assessed value of $422,000,000.00 in real estate, buildings, machinery and inventories, with an annual production valued at $462,000,000, and average annual employment of 116,000 persons. This employment supports directly and indirectly about one-third of the State's population. Added to these direct benefits, the restoration of our forests means the preservation of our streams, the regulation of their flow, the maintenance of our water power developments, the preservation of wild life, the added beauty and attraction to the summer tourists of forest regions as compared with the desolation of idle land.

"However, I wish to impress every land owner in the State with the significant fact that the tax bill will not plant a single tree. All that it does is to open the door of commercial opportunity to you. If you own forests and continue to destroy them completely in harvesting the timber, if you own idle land and allow it to remain idle, you are not taking advantage of the possibilities which this bill offers you. On the other hand, if you undertake to harvest the mature trees of your forest, leaving the younger trees to grow to maturity through future years, and if you undertake to plant your idle cutover land where it is not naturally reseeding, you may do so with a reasonable expectation of a fair return on your investment under the provisions of the act. But the act itself is not a forestry measure and leaves to you the entire problem of how you shall maintain or restore the forests to your land."

PANIC TIMES WILL NEVER RETURN

The business cycle, due to improved methods and economic changes, has been modified to a considerable degree, so that more emphasis is placed on the prosperous as against the adverse phases, according to Mr. Melvin A. Traylor, President of the American Bankers' Association, writing on the subject of "The Changed Business Cycle" in the current issue of the American Bankers' Magazine.

Certainly we cannot look forward to an unbroken continuation of expansion at the rate of the last two or three years, according to Mr. Traylor. But at the same time we need not fear a recurrence of conditions that will plunge the nation into the depths of the more violent financial panics such as have occurred in times past.

The normal state of affairs in a business sense is change and not a stationary condition or an unbroken rise in prosperity, but rather a certain amount of variation through expanding or contracting activity.

Probably the course of future events on the average will create a greater degree of social welfare in the country as a whole, but at times these favoring conditions will be less vigorous, perhaps, than they are at present, or in some periods they will be less equably

distributed among all classes of the community than they are at other times.

Conditions in the United States today are particularly conducive to making common sense effective as an economic factor. Business men have greater opportunities than ever to become real experts in their lines. The progress of research and education enables them to become masters in their fields.

In addition, there are available on a national scale ways and means to enable business to function along more efficient and sounder lines. To business men in key positions there is now available, as never before, trustworthy statistical material by which they can guide their production and distribution schedules with a view to greater coordination between supply and demand.

Again, never has transportation been more efficient. This enables business to keep working capital more liquid because of the short periods in which it is tied up in materials turning over through production and distribution. Efficient mechanical mass production methods have enabled industry to absorb both falling prices and rising wages in lower manufacturing costs and thus aid in creating the increased purchasing power in the hands of the general public, which has put it in a position to take off vast present-day productions.

Finally, in this period of excessively developed credit economy, the Federal Reserve system has been an essential and effective mechanism for promoting the smooth operations and proper control of the credit economy.

H. A. Wise To Speak at Salesmen's Convention

CHICAGO, October 10, 1927.—Henry A. Wise, author of the "Wise plan" under which the Import Committee of the American Paper Industry was formed, now general counsel of that Committee, will be the chief speaker at the annual fall luncheon of the Salesmen's Association of the Paper Industry at Chicago, Tuesday October 25.

His appearance before the Salesmen's Association will be the first time he has publicly discussed the problem of unfair foreign competition in the paper industry, since the meeting of that association in the spring of 1924 took the action which eventually resulted in the formation of the Import Committee.

While Mr. Wise's subject has not yet been announced, he has consented to speak on the general subject of foreign competition, with a review of the three years of work done by the Import Committee in an effort to check the evasion of the customs laws.

The Salesmen's' luncheon will be held during the week of the National Paper Trade Association's convention in this city, and many manufacturers will be here at the same time to meet their friends in the merchants organizaion.

"There is no organizaion before which Mr. Wise could more appropriately discuss the work of the Import Cimmittee," said James H. Coy national president of the Salesmen's' Association.

"In all its years of existence the Salesmen's Association has done nothing of greater value to the paper industry than to take up the problem of foreign competition so vigorously that the Import Committee was formally launched. Mr. Wise proposed the type of organization necessary to check the evils of unrestrained misclassification, undervaluation and dumping practised by many importers. The Salesmen's Association asked the industry to adopt the Wise Plan, and this was done.

"We are therefore proud that Mr. Wise has accepted our invitation to be the speaker at the fall luncheon. Inasmuch as the subject he will discuss will be of the greatest interest to mill executives, we anticipate a large attendance of paper manufacturers. The presence of Mr. Wise promises to make our 1927 luncheon the best in the history of the Salesmen's Association."

Injunction Refused in Pollution Case

The State Supreme Court at Lansing last week refused to grant an injunction restraining the River Raisin Paper Company, the Boehme, Rauch Paper Company and the Monroe Binder Board Company, all of Monroe, from polluting the waters of the Raisin River. The enjoining order was asked by Monroe Carp Pond Company on the ground refuse from the paper plants was injuring fish reared by the latter concern and was injurious to the public health and fish life. A circuit court decision denying the injunction but granting the Carp Pond Company $23,141 for damages done to its fish was affirmed.

In ruling against the injunction the Supreme Court found that while the refuse from the paper mills is polluting the water, it has not been shown that it constitutes a nuisance which is a menace to public health. That the pollution may have damaged the carp was admitted, but the pollution was not deemed poisonous to fish life. The opinion pointed out that the paper mills have an investment of about $15,000,000 against a small investment by the Carp Pond Company.

"We are satisfied from the proofs there was no available way in which the waste could be treated to prevent pollution" the court said.

According to the record the pollution from the mills does remove oxygen from the water and this handicaps fish growth. It was estimated the mills were responsible for 68 per cent of the oxygen removal and the City of Monroe the remainder. The Circuit Court order in the case was affirmed in every detail.

H. L. Rauch, general manager of the Consolidated Paper Company declared today the mere fact that the case has been decided by the supreme court more or less to the satisfaction of the paper making industries, will not affect his company's attitude. "We are still as much interested in the building of a city sewage disposal plant as we ever were," he said.

The offer by the Consolidated company of $100,000 in cash to be used in the building of a plant still stands, Mr. Rauch stated.

"In any event, if the plant is built, we'll have to pay about 25 per cent of the original cost, as we are paying about 25 per cent of the taxes of the city," he explained.

Mr. Rauch expressed the desire to see trunk line sewers built down the river, these to serve also as a retaining wall. Such type sewers would also constitute a dam and would make it possible to hold races on the river here, instead of it being necessary to go about six miles west to held them, it was pointed out. The condition here now will not be any worse, as far as the pollution of the waters is concerned, because more money will not be spent till the situation is clarified, Mr. Rauch said.

American Writing Opens New Sales Offices

HOLYOKE, Mass., October 11, 1927.—Russell L. Madden, assistant general sales agent for the American Writing Paper Company, announced the past week the establishment of several new branch sales offices. On the Pacific Coast, where the business has been hitherto conducted entirely by W. J. McCormick with headquarters in San Francisco a new office will be established at Seattle, Wash., to handle the Northwest territory in charge of Edward P. Wesson who will work under Mr. McCormick.

In the Southwest where the business has been handled by John S. Peters at St. Louis a branch office will be established at Dallas, Tex., in charge of Maurice H. Stetson who will work under Mr. Peters. In the Southeast the business has been handled through Philadelphia and a new office is to be opened at Atlanta, Ga., and Hayward Beatty will be in charge working under F. W. Hastings of the Philadelphia office. Ohio, Michigan and Indiana hitherto covered by the Chicago office with A. N. Forsythe in charge will have another house at Cincinnati, Ohio, with W. J. Lacrosse in charge working under Mr. Forsythe.

John S. Snyder of the local sales department has been transferred to the Philadelphia office.

Hold the WATCH on It!

Check it up with tachometer and stop-watch! Goodrich "1788 Highflex" is the ideal belt to reduce slippage and insure uniform speed on every type of machinery in which close speed-regulation is an important factor.

Although built of heavy, hard-woven canvas which enables it to handle the heaviest loads, "1788 Highflex" bends so easily—because of its "free edge" foldless construction—that better contact and minimum slippage are assured, even on small pulleys.

This greater flexibility—and greatly reduced stretch—minimize shut-downs and burnt-out bearings. It's *the* belt for long life and minimum cost—specify "1788 Highflex" for your most difficult drives, and all your other drives!

- Free bending of ply on ply.
- No folds in the fabric.
- No seams to open up.
- No ply separation.
- No bootlegging.
- Made of strongest belt duck—50% less stretch.
- Compact weave of fabric gives better anchorage—fasteners won't pull out.
- Not affected by atmospheric changes.
- Longer life.
- Send for folder of valuable horse-power and pulley data.

THE B. F. GOODRICH RUBBER COMPANY
Established 1870 Akron, Ohio

Goodrich

"1788 Highflex" Belt

Section of the
Technical Association of the Pulp and Paper Industry

AN ORGANIZATION FOR THE ENCOURAGEMENT OF ORIGINAL INVESTIGATION AND RESEARCH WORK IN MILL ENGINEERING AND THE CHEMISTRY OF PAPER, CELLULOSE AND PAPER-MAKING FIBERS GENERALLY; IT AIMS TO PROVIDE MEANS FOR THE INTERCHANGE OF IDEAS AMONG ITS MEMBERS IN ORDER THAT PROCESSES OF MANUFACTURE MAY BE MADE MORE EFFICIENT AND IMPROVED ALONG TECHNICAL LINES.

Conducted by W.G.MacNAUGHTON, Secretary

A Microscope For The Examination And Photography Of Paper*

By L. V. Foster, Bausch & Lomb Optical Co., Rochester, N. Y.

This microscope differs from that used by doctors of medicine in that it has an entirely new means for furnishing light on the paper surface and that the microscope proper is always horizontal.

The Complete Apparatus

The complete apparatus for making either visual examinations of paper or for the photography of it is shown in Figure 1. The lamp house (L) contains a 100 watt concentrated filament Mazda lamp and a pair of condensers. The part (M) contains the stage and cone reflector which is shown schematically in Figure 2. The light from the 100 watt Mazda lamp falls on an annular ring of ground glass (G), which acts as an extended source of light surrounding the specimen and is reflected to it by means of the highly polished metal cone reflector (M). The paper (P) to be examined is glued on a glass disk and placed in a holder so that it always occupies the correct position with respect to the light coming from the cone. The conical reflector brings the light from the

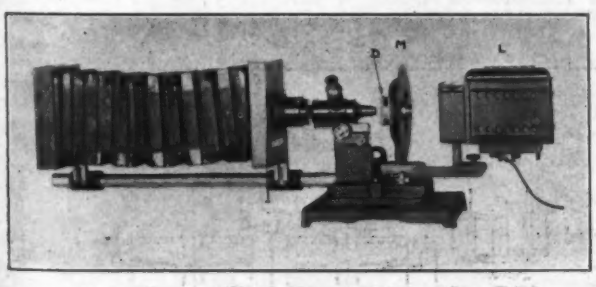


FIG. 1

annular ring into the plane of the paper and illuminates the entire area in such a way as to cause the individual fibers to be visible through the microscope.

Altering the Amount of Light

It is desirable in some kinds of paper to alter the amount of and direction of light which falls upon it. This is accomplished by introducing a tubular stop in the upper end of the cone. This is shown at (D) in Figure 3. When the tubular stop leaves the whole surface of the cone exposed there is 25 degrees of oblique illumination falling on the paper. This tubular diaphragm is actuated by means of a collar (D) (Fig. 1) graduated from 0 to 25 degrees.

The microscope as shown in Fig. 1 is equipped with an auxiliary

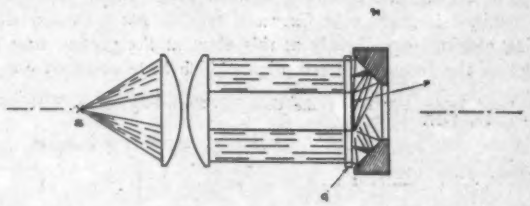


FIG. 2

visual eyepiece, at the side, which is withdrawn from the body tube when making photographs. The entire illumination unit which actually is combined with the stage of the microscope is

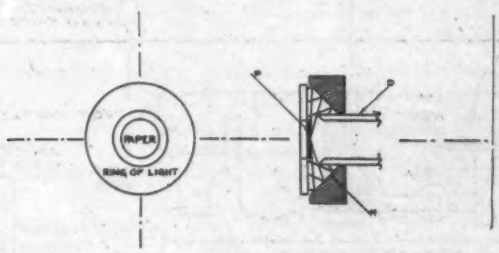


FIG. 3

inclinable about a vertical axis through the plane of the object. This feature makes it possible to take stereoscopic pictures of paper, as well as single photographs.

Paper a Difficult Object

Paper is one of the most difficult objects the microscopist has to analyze and photographic results remarkably different can be obtained from the same sample of paper under slightly varying conditions of illumination. The virtue of the instrument described by Mr. Foster is that the conditions of illumination can be varied at will and can be precisely reproduced after any lapse of time.

* Paper delivered at TAPPI meeting of the Chemical Exposition, New York, September 26, 1927.

Continuous Chemical Reclaiming Department At A Modern Soda Pulp Mill*

By A. Anable, Engineer, The Dorr Company, Inc.

At your 1927 annual meeting C. L. Knowles of the Dorr Company addressed you on the subject of "Continuous Recausticizing in the Pulp and Paper Industry." This paper dealt with the development of a suggested arrangement of equipment for carrying out the recausticizing operation at a soda pulp mill on a continuous basis. Continuous lime slaking and mud reburning were also discussed insofar as they applied to the other operations in the process cycle. Since that time an installation very similar to that described by Mr. Knowles has been put into operation at the soda pulp mill of the Canadian Cellulose Company, Cornwall, Ontario, and Mr. Tomlinson has very kindly granted us permission to describe his layout before this association.

Canadian Cellulose Co.

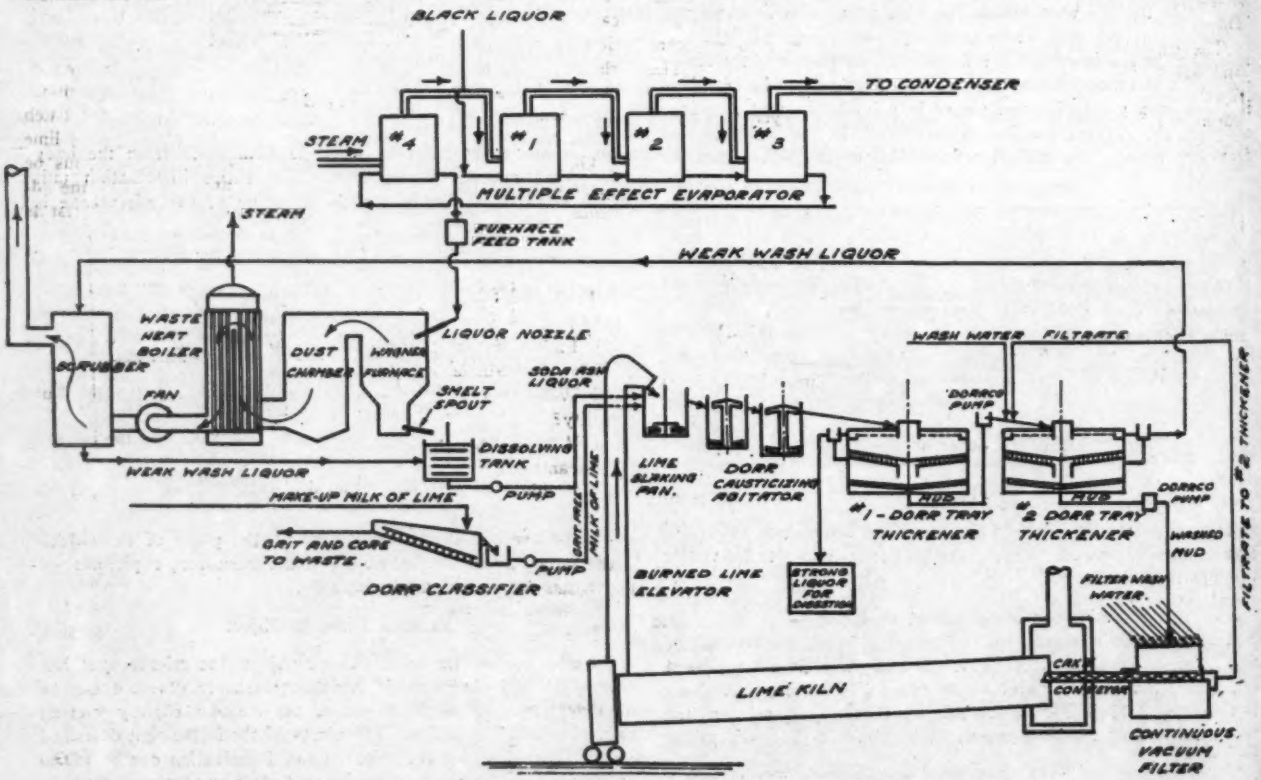
The Canadian Cellulose Company is associated with the Howard Smith Paper Company, and its new mill at Cornwall has a capacity of 60 tons of soda pulp a day. Full capacity operations have not as yet been carried out for any length of time since this company has encountered the usual initial difficulties which are met when an entirely new plant is first started up.

We therefore wish to preface our remarks on this plant by stating that while the operating figures given in this paper have been obtained in practice at Cornwall they do not represent what is being obtained consistently at this plant at the present time on account of the frequent interruptions which have occurred due to changes in the lime handling system, kiln operation, boiler plant, and other parts of the mill. The Canadian Cellulose Company and ourselves feel confident that the encouraging figures obtained with the causticizing plant and mentioned in this paper will be consistentlly maintained just as soon as continuous operation throughout the entire mill is secured.

The black liquor is concentrated in a multiple effect evaporator to 35 degrees Bé. and is then burned and melted in a Wagner furnace. The furnace gases pass through a dust collection chamber on their way to a waste heat boiler, the steam generated in this manner being used in the multiple effect evaporator for black liquor concentration and for other purposes in the mill. A gas scrubber washes the products of combustion of the Wagner furnace with weak liquor from the mud washing step, this liquor after passing through the scrubber flowing into the smelt dissolving tank under the discharge spout of the Wagner furnace. The soda ash liquor produced in this tank under the furnace is continuously pumped to the causticizers where it is causticized with lime in the usual manner.

The bulk of the lime is secured from the reburning of the mud while losses are made up with milk of lime from the bleach plant. Under the present arrangement the kiln discharge is fed directly into a slaking pan, after first passing through a Dorr classifier for removal of grit and unburned core. This arrangement has not been entirely satisfactory, because in the first place the kiln has not discharged at a uniform rate; and secondly because the kiln

* Delivered before TAPPI at the Chemical Exposition, New York City, September 28, 1927.



Diagramatic Flow Sheet of Soda Mill Chemical Reclaiming Department

discharge contains some lumps not completely burned which should be removed ahead of causticizing. Plans have already been made to rearrange the lime handling and slaking system and when put into effect this will provide a uniform rate of lime flow to the causticizers and classification of both reburned and make up lime for removal of grit and core. At the present time the grit and core removed from the make up lime by the classifier amounts to around 400 pounds per day, and this will presumably be very much increased after all of the lime is classified. The reburned lime runs about 80 per cent CaO while the make up lime contains 85 per cent CaO and 2 to 3 per cent MgO.

Causticizing is carried out in two 7 ft. dia. x 8 ft. deep Dorr agitators arranged in series with the slaking pan, the soda ash liquor and lime flowing through them continuously and being given a 2 hour period of detention to insure high causticity. The agitator tanks are equipped with steam heating coils. Causticizing is carried out at 12 degrees Bé. The temperature is about 72 degrees C. in the first agitator and 78 degrees C. in the second, while the discharge from the causticizing operation will have a causticity of 90 per cent or better, 91 per cent having been obtained at times during the initial plant operation.

The slurry from the last causticizer flows by gravity into the first of two Dorr two compartment tray thickeners installed in covered steel tanks 20 ft. dia. x 10 ft. deep. The clear caustic liquor overflowing this first thickener is at 12 degrees Bé. with an average causticity of around 92 per cent. The temperature is an average of 71 degrees C. and the settled lime mud is removed by a Dorrco diaphragm pump at 60 per cent moisture. The clear caustic liquor goes to storage ahead of the chip digesters, while the mud is mixed with fresh wash water and filtrate and resettled in the second thickener.

The weak liquor overflow from this second thickener is at about 3 degrees Bé., 95 per cent causticity, and 31 degrees C., and, as previously stated, is used for dissolution of the Wagner furnace molten discharge after washing the products of combustion in the gas scrubber. The settled and washed mud is removed by a Dorrco diaphragm pressure pump at 60 per cent moisture and fed to an Oliver continuous vacuum filter for a final wash and dewatering.

The cake from the filter contains about 30 per cent moisture and has a caustic soda content not exceeding ½ per cent. The filtrate and wash water applied on the filter are used for washing purposes in the second thickener. The cake is conveyed by a screw conveyor into a rotary kiln, the screw being encased on a water cooled housing in order to better resist the action of the kiln gases.

The rotary kiln used for lime mud reburning is of the Bonnet type. The shell is 100 ft. long and 7 ft. in diameter, being lined in the usual manner with fire brick. Oil is used as fuel in the kiln.

This installation is believed to be of interest in that continuous processing is carried out to a degree not frequently the case in mills of this type. In addition to continuous causticizing and lime mud washing modern continuous equipment is utilized for black liquor evaporation, incineration, and smelting, lime mud dewatering, and mud reburning.

Dorr Thickener at Thilmany

Before the Superintendents' Association last May in Richmond, Va., we discussed a suggested causticizing layout for use at sulphate mills. Since that time the first installation of a Dorr thickener in sulphate mills has been made at Thilmany Pulp & Paper Company, Kaukauna, Wis. This mill has a capacity of 90 tons of kraft pulp per day, causticizes from 65,000 to 72,000 gallons of 20-22 degree Bé. green liquor per day, and, after strong caustic liquor decantation, washes the lime mud twice before it is filtered and reburned. Only one thickener is being used at present for the second mud washing, while causticizing, strong liquor decantation, and first mud washing are still carried out in twelve 10 ft. x 14 ft. batch causticizers and settlers of the usual type.

Causticizing is practiced in 8,000 gallon batches, the lime charged into the cages being either 85-90 per cent CaO burned lime from St. Genevieve, Mo., or reburned lime from a rotary kiln, or else a mixture of new and reburned lime. The first strong liquor decanted runs about 20 degrees Bé. The settled mud, amounting to 45 tons per day, is first given a weak liquor wash with 1-2 degree Bé. liquor overflowing the Dorr thickener. The 7-8 degree Bé. liquor which is decanted after this first wash is used for smelt dissolving in the green liquor tanks below the furnaces.

The mud is then given a second wash with fresh water and is pumped to the Dorr thickener. From this point on the operation is continuous. The thickener overflows 1-2 degree Bé. liquor which as previously stated is used for the first mud washing, and a Dorrco diaphragm pump continuously removes the washed mud and feeds it to a continuous vacuum filter at a consistency of around 60 per cent moisture. The filter cake is burned in a continuous rotary kiln and returned to the batch causticizers. The Dorr thickener is of the tray type, having two superimposed settling compartments in a steel tank 25 ft. dia. x 10 ft. deep. When handling 65,000 to 72,000 gallons of liquor per day and 45 tons of lime mud the overflow liquor is crystal clear at all times.

Points of Particular Interest

The Thilmany installation is believed to be of particular interest for several different reasons. In the first place the addition of this single Dorr thickener has relieved the existing batch tanks of one function, the second mud washing, and has accordingly permitted the cycle of batch tank operation to be completed in a shorter period of time. This amounts to proportionately increasing the capacity of the entire causticizing department. In the second place continuous mud discharge is maintained directly ahead of the filter which not only assures a uniform feed to the filter at the proper consistency, but also a uniform feed of cake to the kiln which assists in the maintenance of a high kiln efficiency and simplifies burning control. In the third place it has been demonstrated conclusively that continuous Dorr thickeners can be operated satisfactorily in conjunction with intermittent causticizing and settling equipment. This means that batch causticizing plants, like the original one at Thilmany, may be gradually changed over to continuous ones, like Canadian Cellulose, by first putting the various mud washing and decantations on a continuous basis with the Dorr thickeners and finally replacing the batch causticizers with Dorr continuous agitators and a continuous lime slaking layout. The cost of remodeling the plant may thus be distributed over a period of several years, and certain of the advantages of the ultimate continuous plant may be obtained just as soon as the first equipment replacement is made.

Forced Circulation in Stationary Kraft Digesters

SPECIAL INQUIRY No. 85

1. Please discuss use of circulating pumps with and without heaters on stationary digesters.

2. Without heaters will circulating pumps improve the pulp quality?

3. Without heaters would the use of pumps reduce the quantity of steam?

4. Would they increase the pump yield or decrease the percentage of screenings?

5. How would circulating pumps without heaters affect the volume or density of the liquor to be evaporated in recovery?

6. Can the liquor be circulated too fast in the digesters?

7. Should the liquor be sprayed into the top of the digester?

This special inquiry will be handled under the Service to Members plan and a copy of the special report on it will be sent to those who contribute to the discussion.

Please send responses to

W. G. MACNAUGHTON, Sec., TAPPI,
18 East 41st Street, New York.

Sulphite Pulp from Spruce

By Dr. Donald E. Cable

(Concluded from last week)

CHAPTER IV

Effect of Cooking Spruce With and Without Surplus Gas (SO_2) Pressure at Beginning of a Cook

Up to the present time there has been a phase of the sulphite cooking operation which has been systematically studied by a relatively small number of investigators. This phase relates to the phenomenon of penetration of wood chips by sulphite cooking liquor in the first stage of a cook.

In a sense it is reasonable to think of a sulphite cook as consisting of two fundamental operations. The first is the physical action of chip penetration and the second is the chemical action of the bisulphite liquor on the non-fibrous elements of wood sustance, chiefly lignin and associated materials.

The first step has an important bearing on the yield of screenings. Thorough penetration of the wood by the liquor before a certain critical temperature has been reached favors a minimum formation of screenings. This critical temperature in the cooking of spruce is said to be approximately 110 degrees C. and for other woods it is undoubtedly not much above or below that point.

According to Hägglund[30] the lignin or mortar-like material in wood is chemically combined with sugars or "carbohydrates." In the sulphite cooking process we have an hydrolysis of this complex material, giving a lignin residue and water soluble carbohydrates. If a base such as calcium, magnesium, or sodium ions is present in the water solution and in intimate contact with the lignin residue, a water-soluble salt or derivative of lignin is formed regardless of whether we are dealing with an acid or an alkaline cooking process.

Now, if by incomplete penetration of the cooking liquor a portion of the chip is not in contact with a base at approximately 110 degrees C. or above, we may have conditions favorable for the hydrolysis of the lignin carbohydrate complex, but the liberated lignin, having no base with which to combine may and perhaps does become very resistant to solution in hot cooking liquor. We may think of this altered lignin body as a resin-like product, possibly a condensation or polymorization product, resembling "Bakelite" in its insolubility and resistance to further chemical activity.

Whether we have first an hydrolizing reaction or a bisulphite addition reaction as the sequence of chemical actions occurring in the sulphite cooking process does not seem to have been definitely established by any investigators. There are many cases of experimental evidence to confirm this lignin-carbohydrate theory of Hägglund's, particularly from papers presented at the September, 1926 Convention of the American Chemical Society by Hawley, Sherrard, Ritter and Schorger.

Chapter 2 has gone into considerable detail on our standard method of cooking wood chips by the sulphite process. In that chapter a number of significant remarks taken from a recent article[31] by Miller were mentioned. Those of particular importance with respect to the theme of this chapter bear repeating and are as follows:

"At the Forest Products Laboratory it has been found that at a temperature above 110 degrees C. sulphurous acid alone will alter the lignin so that it will not dissolve."

"A 'punched' or 'bored' cook is nothing but one that is steamed too fast and which gets above 110 degrees C. before the chips are all penetrated by the bisulphite."

As mentioned in the second chapter our standard procedure of sulphite cooking calls for the use of surplus gas pressure injected into the interior of our digester from a tank of liquid sulphur dioxide, during the first hour of a cook. It was further explained that with this surplus gas pressure at the start of a cook the amount of resulting screenings from a spruce cook was in no case in excess of 0.03 per cent. (about 0.06 per cent. on weight of pulp obtained), whereas similar cooks made without the preliminary injection of sulphur dioxide gas gave screenings yields of 0.4 to 1.2 per cent. (with the exception of sodium bisulphite cooks which gave only 0.09 per cent. yield of screenings).

The data in this chapter is thought to show conclusively the superiority of the former treatment over the latter for four different kinds of cooking liquor. It is for this reason that the preliminary injection of supplementary sulphur dioxide gas, during the first hour of a cook to aid penetration has been adopted as our standard laboratory procedure for purposes of scientific and practical research. This operation which is very easily accomplished in the laboratory might even be applied commercially in large scale mill cooks. Such an application would necessarily require the installation of supplementary equipment such as a gas compressor and gas or liquor sulphur dioxide storage tanks which could be heated externally to maintain gas pressures of 50 to 75 pounds in the head of freshly charged digesters.

The economic advantages of such a mill installation have not as yet been weighed so that at the present time we are neither prepared to recommend nor discourage the installation. but simply mention it as being a possibility in the way of a practical modification of the present art of sulphite cooking to aid in the reduction of pulp screenings to values considerably below those now common in the industry and in the production of a more highly purified grade of pulp than is now obtainable with present methods of sulphite cooking.

The use of surplus sulphur dioxide gas as an aid to more rapid penetration was found, after the contents of this chapter were first presented in report form, to resemble but not duplicate the scheme proposed and patented[34] by Moore and Wolf.

Moore and Wolf Sulphur Dioxide Injection Treatment

Our proposal differs from theirs in the fact that we inject heated sulphur dioxide gas into the top of a sulphite digester under elevated pressure, whereas they inject liquid sulphur dioxide or hot or cold sulphur dioxid gas into the bottom of a digester.

Moore and Wolf apparently considered the increased concentration of free sulphur dioxide in the cooking acid as being a greater aid to more rapid chip penetration than the increased gas pressure in the top of the digester and hence increased liquor pressure. It is our opinion that the latter effect is the more important one of the two. By injecting the gas into the top of a digester both these effects exert themselves in speeding up the penetration action, whereas the injection of the gaseous and particularly the liquid sulphur dioxide into the bottom of the digester leads to the first beneficial effect, but contributes only indirectly and weakly to the second and what we consider the more important effect.

It is true that the injection of heated sulphur dioxide gas into the top of a digester leads to a falling pressure after its injection, during the first hour of a cook or until the temperature of the cooking acid has climbed to 50 to 70 degrees C. The injection of this gas, however, could be made continuous so as to add more gaseous sulphur dioxide as part of the gas in the top of the

[30] "The Chemistry of the Sulphite Process." Svensk Kem. Tids. 37, 116-124 (1925); Chem. Zentr. 96, I, 271 (1925).

[31] loc. cit.

[34] U. S. patent 1,119,977 (Dec. 8, 1914).

digester is being condensed or dissolved in the unsaturated cooking acid.

By injecting heated sulphur dioxide gas into the top of a digester in this manner it is our candid opinion that still more rapid chip penetration would result than if an equal weight of sulphur dioxide in the form of either gas or liquid were injected into the same digester from the bottom as proposed by Moore and Wolf.

Experimental Results

Table 6 gives a "bird's eye" picture of the experimental evidence on which this report is based. It will be noted that ten of the sixteen sulphite cooks therein reported have been previously described in one of the two previous chapters. The repetition of experimental data should be excusable on the grounds that such data has a vital bearing on the subject under consideration in this chapter.

Temperature and pressure curves obtained in the sixteen sulphite cooks listed in Table 6 appear in this report as Figures 4, 5, 6, 7, 9, and 10.

In this series of experiments all cooking condition variables were held as closely as possible to the standard set with the exception that six of the sixteen cooks departed from the standard conditions in one respect, namely, no supplementary injection of sulphur dioxide gas was added directly to the digester from a tank of liquid sulphur dioxide to raise the pressure within the digester during the first hour of the cook.

In every case, as for the experimental part of Chapter 3, we

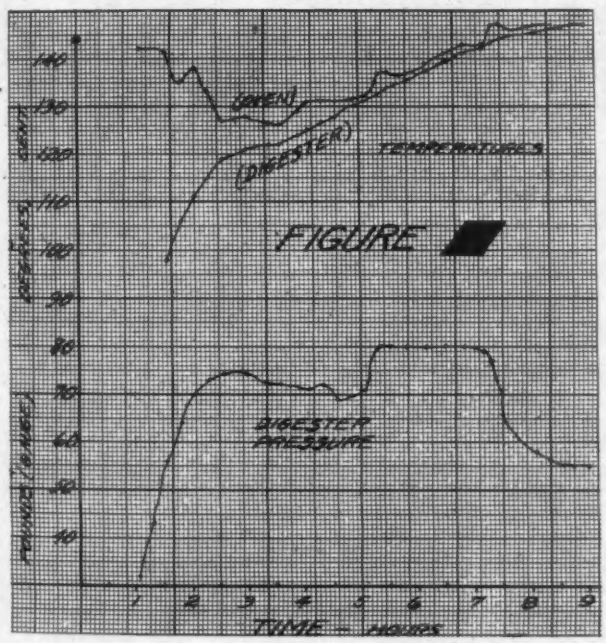


FIG. 9

Sulphite Cook using ¾ inch Spruce (S2) Chips, Cook Base in Acid No. 61 Calcium, No. 62 Magnesium, No. 65 Ca-Mag. Date of Cooks 7/13/25.

used our standard apparatus, method of cooking, treatment of pulp, methods of determining yields of pulp and screenings and determinations of bleach consumption and loss of weight of pulp on bleaching; all of which operations were described in detail in Chapter 2.

Table 7 expresses the yield of pulp for each cook in terms of pounds of bleached or unbleached pulp per cord of wood. Here, as mentioned in the third chapter, the yield values are obtained on the assumption that a cord of pulpwood in four foot lengths contains approximately 90 cubic feet of solid wood and that white spruce in general has approximately the same specific weight as the log (S2) with which we have worked in this set of experiments, namely, 23.95 pounds per cubic foot oven dry condition.

Table 8 is self explanatory. It is designed to remove any ambiguity regarding the meaning of our bleach consumption figures.

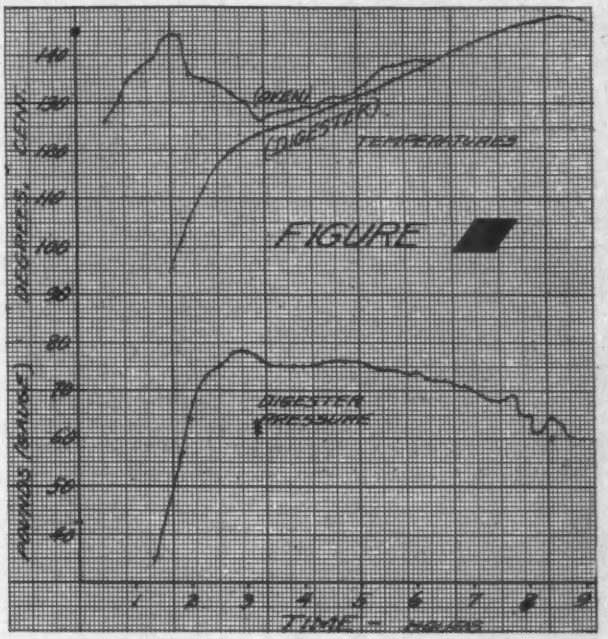


FIG. 10

Sulphite Cooks using ¾ inch Spruce (S2) Chips, Cook Base in Acid No. 91 Calcium, No. 92 Magnesium, No. 95 Sodium. Date of Cooks 7/30/25.

TABLE 6

SPRUCE SULPHITE COOKS WITH AND WITHOUT INJECTION OF SULPHUR DIOXIDE GAS AT THE START

Cook No.	Special cooking conditions	Cooking liquor base [28]	Strength of cooking liquor: % Free SO_2	Strength of cooking liquor: % Comb. SO_2	Yield of pulp, based on weights of pulp and original chips in oven dry condition: % Screened pulp	% Screenings	% Pulp and screenings	Bleach (35% chlorine) requirement of pulp, % based on oven dry weight of pulp	Loss on bleaching, % based on weight of unbleached pulp
61	[56]	Calcium	4.22	1.02	47.6	1.24	48.8	17.0	3.3
91	[56]	Calcium	4.22	1.02	48.1	0.65	48.7	18.1	4.2
141	[57]	Calcium	3.37	1.02	49.6	None	49.6	13.3	3.1
174	[57]	Calcium	4.31	1.12	50.8	0.01	50.8	13.7	3.5
211	[57]	Calcium	3.68	1.09	49.3	None	49.3	11.1	2.0
65	[56]	Ca.-Mg.	4.19	1.06	49.0	0.99	50.0	17.6	3.4
152	[57]	Ca.-Mg.	3.31	1.06	49.6	None	49.6	14.0	1.2
153	[57]	Ca.-Mg.	3.31	1.06	49.9	None	49.9	14.5	2.4
142	[57]	Ca.-Mg.	3.31	1.06	49.7	None	49.7	13.6	2.6
175	[57]	Ca.-Mg.	4.27	1.13	50.8	0.03	50.8	12.8	3.2
62	[56]	Mag'sium	4.16	1.10	51.1	1.10	52.2	19.3	4.2
92	[56]	Mag'sium	4.16	1.10	49.1	0.40	49.5	19.7	5.0
176	[57]	Mag'sium	4.23	1.14	50.7	None	50.7	14.2	3.0
95	[56]	Sodium	4.13	1.14	49.4	0.09	49.5	14.1	4.1
143	[57]	Sodium	4.13	1.10	50.2	None	50.2	13.4	2.6
212	[57]	Sodium	4.21	1.14	49.5	None	49.5	10.6	1.4

SUPPLEMENTARY DATA

Kind of wood used in each cook—¾-inch spruce chips from log S2.
Moisture content of chips— 6.10% for cooks 61, 62 and 65.
6.05% for cooks 91, 92 and 95.
10.00% for cooks 141, 142, 143, 152 and 153.
6.10% for cooks 211 and 212.
Weight (air dry) of chips used in each cook—65.00 grams.
Volume of cooking liquor for each cook—325 cc. (Weight—333.4 grams.)
Length of each cook from start of heating period till oven is opened and cooled—9.0 hours.

[28] loc. cit.
[51] loc. cit.
[56] Cooked without adding surplus sulphur dioxide for pressure at the beginning.
[57] Cooked with the addition of surplus sulphur dioxide gas for pressure at the beginning to aid penetration.

TABLE 7
YIELDS OF SULPHITE PULP PER CORD OF SPRUCE WOOD[85]

Cook No.	Special cooking conditions	Cooking liquor base	Yield of pulp (oven dry weight of pulp & chips)	Yields of oven dry pulp		Yields of air dry pulp	
				Unbleached pulp per cord	Bleached pulp per cord	Unbleached pulp per cord	Bleached pulp per cord
			%	lb.	lb.	lb.	lb.
61	([86])	Calcium	47.6	1026	933	1139	1101
91	([86])	Calcium	48.1	1038	994	1151	1102
141	([87])	Calcium	49.6	1070	1036	1189	1150
174	([87])	Calcium	50.8	1094	1056	1214	1171
211	([87])	Calcium	49.3	1061	1040	1180	1154
65	([86])	Ca-Mg	49.0	1056	1020	1171	1131
142	([87])	Ca-Mg	49.7	1071	1042	1190	1157
152	([87])	Ca-Mg	49.6	1070	1058	1189	1173
153	([87])	Ca-Mg	49.9	1074	1049	1193	1162
175	([87])	Ca-Mg	50.8	1094	1060	1214	1177
62	([86])	Magnesium	51.1	1101	1057	1223	1172
92	([86])	Magnesium	49.1	1059	1004	1174	1114
176	([87])	Magnesium	50.7	1092	1060	1212	1177
95	([86])	Sodium	49.4	1063	1020	1180	1131
143	([87])	Sodium	50.5	1081	1052	1200	1169
212	([87])	Sodium	49.5	1067	1051	1183	1168

[85] loc. cit.
[86] Cooked without adding any surplus sulphur dioxide gas for pressure at start.
[87] Cooked with the addition of surplus sulphur dioxide gas.

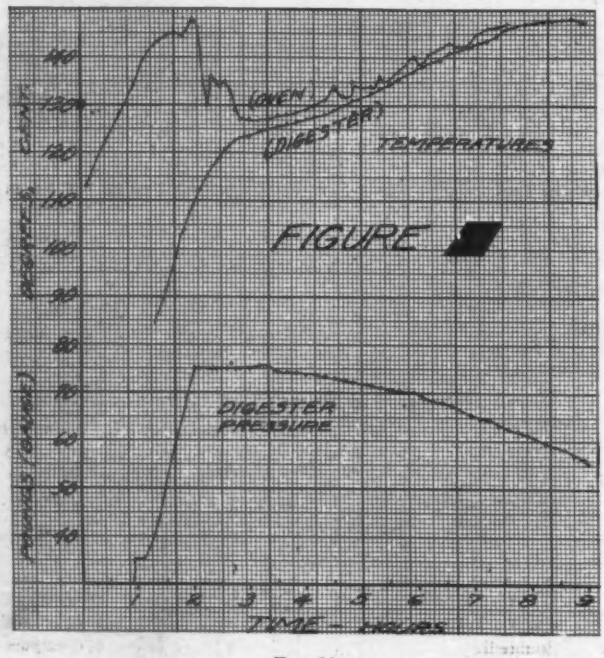


FIG. 11
Sulphite Cooks using ¾ inch Spruce (S2) Chips, Cook Base in Acid No. 191 Calcium, No. 192 Ca-Mag., No. 193 Magnesium. Date of Cooks 10/14/25.

Discussion

A critical study of Table 6 shows unmistakable advantages of the preliminary sulphur dioxide gas pressure treatment for cooks employing such bases as calcium, magnesium, or mixtures of the two. With sodium bisulphite cooks this advantage is still observable though much less in magnitude than for the cooks made with alkaline earth, (calcium or magnesium) bisulphite solutions.

The advantages of using the first hour rise in sulphur dioxide gas pressure within the digester are two-fold. First, the amount of resulting screenings in the finished pulp is distinctly lower and for this decrease in screenings there is a corresponding increase in the yield of screened pulp. In the second place, the bleach consumption of the screened pulp is decidedly lower. With calcium or magnesium pulps it is seen that this lowering of bleach consumption on account of surplus sulphur dioxide gas pressure at the beginning of a cook amounts to 4 or 5 per cent on the weight of

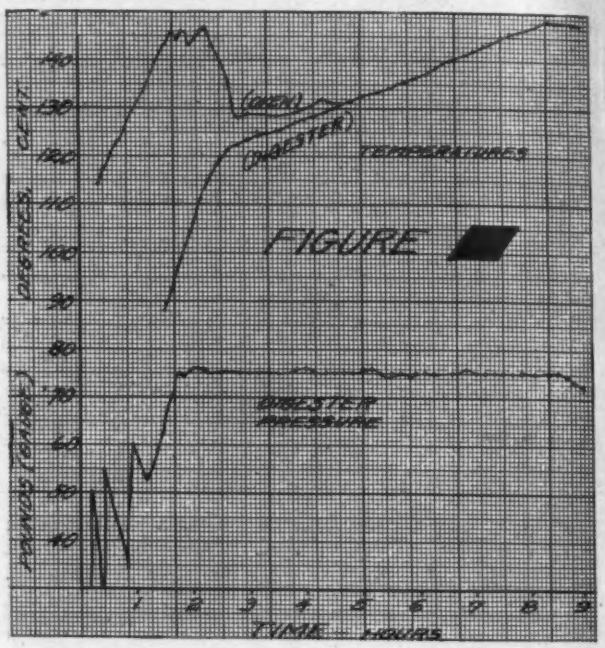


FIG. 12
Sulphite Cooks using ¾ inch Spruce (S2) Chips, Cook Base in Acid No. 231 Calcium, No. 232 Ca-Mag., No. 233 Magnesium. Date of Cooks 3/12/26.

pulp. In other words, this first step of sulphur dioxide gas injection results in a sulphite pulp (screened) of *higher yield* and *higher purity* than is obtained without this injection.

In commercial practice this injected sulphur dioxide gas could be recovered very nearly undiminished in amount with the regular relief gases so that it could be used over and over again for subsequent cooks with a high recovery efficiency for each cycle.

In contrast to these of our results we find that Edwardes[88] in his paper, entitled, "Proposed Modification of the Sulphite Process" found that by using surplus gas pressure (as air) in the top of the digester from the very start of a cook he obtained, as we have, a higher yield of screened pulp and by inference,

TABLE 8
BLEACH REQUIREMENTS OF SPRUCE SULPHITE PULPS

Cook No.	Special cooking conditions	Cooking liquor base	Bleach requirement of pulp. Amount of bleach (35% available chlorine) in pounds needed for every 100 pounds unbleached pulp	
			Based on 100 lb. Oven dry pulp %	Based on 100 lb. Air dry pulp (10% moisture content) %
61	([86])	Calcium	17.0	15.3
91	([86])	Calcium	18.1	16.3
141	([87])	Calcium	13.3	12.0
174	([87])	Calcium	13.7	12.3
211	([87])	Calcium	11.1	10.0
65	([86])	Calcium-Magnesium	17.6	15.8
142	([87])	Calcium-Magnesium	13.6	12.2
152	([87])	Calcium-Magnesium	14.0	12.6
153	([87])	Calcium-Magnesium	14.5	13.0
175	([87])	Calcium-Magnesium	12.8	11.5
62	([86])	Magnesium	19.3	17.4
92	([86])	Magnesium	19.7	17.7
176	([87])	Magnesium	14.2	12.8
95	([86])	Sodium	14.1	12.7
143	([87])	Sodium	13.4	12.0
212	([87])	Sodium	10.6	9.5

[88] Tech. Assoc. Papers IV, pp. 22-29 (June, 1921).
[86] Cooked without adding surplus dioxide gas for pressure at beginning of cook.
[87] Cooked with the addition of surplus sulphur dioxide gas.

though his experimental work was not designed to emphasize this point particularly, a lower yield of screenings for a cook of given duration and temperature conditions; however, instead of getting a purer pulp, requiring lower bleach consumption than usual, he actually obtained a pulp of lower purity, requiring for spruce a bleach consumption of from 20 per cent. to over 48 per cent. in some cases.

Thinking that this discrepancy between our work and that of Edwardes was due in large measure to the fact that in one case the injected gas was sulphur dioxide and in the other case—air; we substituted the latter for the former, taking the digester pressure up to the 75 pound maximum as Edwardes did at the very start.

Under these conditions our results coincided very well with those of Edwardes. With the air injection method our screenings yields were practically nil, and our resulting screened pulps consumed 50 to 75 per cent. more bleach than normal spruce sulphite pulps would consume.

Air may and no doubt does have the effect of rendering a certain amount of calcium or magnesium in the liquor inactive as sulphates of those bases.

This marked superiority of added sulphur dioxide gas over no gas or compressed air leads to the conclusion that it not only speeds up the liquor penetration as does injected air, but unlike compressed air it serves to increase the free sulphur dioxide content of the cooking acid rather than cause its decrease or its conversion (partial) into the more destructive sulphuric acid.

This cooking liquor of increased sulphur dioxide content no doubt leads to the solution of certain reducing constituents of wood during the first part of a sulphite cook which otherwise would be less completely removed with liquors, having a lower total SO_2 content up to the time of reaching maximum pressure.

CHAPTER V

Effect of No Pressure Drop at End of Cook as Compared with a Drop Starting After the Fifth Hour and One Starting After the Third Hour

The third and fourth chapters have presented a rather detailed discussion of the following variables in the sulphite cooking process:

1. Kind of base present in the cooking acid
2. Injection of surplus sulphur dioxide gas into the head of digester at the beginning of a cook to aid penetration.

These variables were studied in our laboratory primarily because it was felt that they had not been given given adequate attention at least in a public way by chemists or pulp technologists in this country or abroad.

The body of this chapter is built around experimental evidence which pertains to another cooking variable in the sulphite process that deserves more attention than it has received in the past. This variable has to do with the intentional dropping of pressure within the digester at the latter stage of a cook.

The purpose of lowering the digester pressure near the end of a cook, as all familiar with the sulphite process know, is primarily to recover from the digester liquor as much as possible of the free sulphur dioxide, dissolved therein without causing a burned cook by carrying this operation too far. All this sulphur dioxide gas thus recovered serves to increase the free sulphur dioxide content of fresh cooking liquor which is to be used for subsequent cooks.

Thus, at our Rumford Mill it is common practice to see a fall in digester pressure from 75 pounds (gage) down to about 50 pounds, during the last hour and a half or two hours.

As mentioned in the second chapter we have arbitrarily chosen to follow as our standard procedure in the laboratory a gradual fall in pressure from 75 pounds down to 55 or 58 pounds, starting down after the fifth hour.

The reason for our adoption of this procedure is best explained by repeating the following paragraph, taken from that chapter:

"In the last stage of the cooking process it has been found important to relieve a digester in such a way as to lower the partial pressure of the sulphur dioxide gas to 4 or 5 pounds before blowing. This reduction of pressure is of importance from the standpoint of maintaining a minimum sulphur consumption. It is also of considerable importance (as will be shown in the last chapter of this thesis) from the standpoint of pulp yield.

"Thus with pressure maintained at the maximum (75 pounds gage) until the end of a cook and a maximum digester temperature of 148 degrees C. we have discovered that the increasing degree of acidity during the latter part of a cook, especially where straight calcium is used as the cooking liquor base, causes a decidedly greater destruction of the cellulose than is experienced when this tendency for increasing acidity is counteracted or minimized by lowering the digester pressure (and hence the partial pressure of the sulphur dioxide) from 75 pounds to 55 to 58 pounds, the temperature changes being kept the same in both cases. Without this fall in digester pressure, during the cooking of spruce, the yields have been lowered from 1 to 4 per cent., based on weight of original wood chips) in cooks where magnesium bisulphite or calcium bisulphite cooking liquors were used, below the corresponding values where the same wood and cooking bases are involved and a pressure lowering followed as described."

In this chapter a direct comparison is made among results obtained under three sets of relieving conditions, all other variables except kind of base in the cooking liquor, being held constant.

The first set of conditions calls for the maintenance of a constant pressure of 75 pounds from the time it is reached until the end of a cook. This very nearly reproduces the pressure conditions followed in many of the experimental sulphite cooks made by Miller and Swanson at the U. S. Forest Products Laboratory. In some of their experiments they held the pressure constant at 75 pounds and in others they worked at 65 pounds. In some of the cooks the pressure was lowered from 75 pounds to 50 pounds, during the fifteen minutes just prior to the blow.

The second set of experimental relieving conditions (illustrated by Figures 4, 5, 6 and 7) involves our standard drop in pressure from 75 pounds to 55 to 58 pounds, during the last four hours.

The third set of relieving conditions (illustrated by Figure 11) is similar to the second except that the lowering of pressure starts after the third hour rather than after the fifth hour of a cook.

Experimental Results

A tabularized summary of the experimental work is found in Table 9. Of the thirteen sulphite cooks listed therein all but six have been given in previous chapters and are only used here again as standard cooks with which the cooks of deviating pressure relieving conditions may be compared.

Discussion

The nearest approach in the past to the variable under consideration in this chapter (described in literature on the sulphite process) is undoubtedly the article[9] by Miller and Swanson on "Effects Producible by Variation in Pressure." This article, however, deals with the amount of maximum pressure carried by a sulphite cook and not the manner in which the pressure is lowered at the end of a cook.

In their experiments maximum pressures of 65, 70, 75, 80 and 100 pounds (gage) were tried with a drop in each case to 50 pounds during the fifteen minutes just prior to the blow.

The only cook made by them on white spruce which can be compared with any of our spruce cooks is the one listed by them as No. 3056 in which the spruce was cooked for 8½ hours with a maximum pressure of 75 pounds and a maximum temperature of 148 degrees C. Under these conditions a yield of screened pulp was obtained, amounting to 48.4 per cent. This cook may be compared with our nine hour cook 231 which as seen in Table 9 gave a yield of screened pulp amounting to 48.1 per cent.

[9] loc. cit.

TABLE 9
SPRUCE SULPHITE COOKS—USING THREE METHODS OF DIGESTER RELIEF [83]

Cook No.	Special cooking conditions	Cooking liquor base [84]	Strength of cooking liquor: Free SO_2 %	Strength of cooking liquor: Comb. SO_2 %	Yield of pulp, based on wts. of pulp & original chips in oven dry cond.: Screened pulp %	Yield of pulp, based on wts. of pulp & original chips in oven dry cond.: Screenings %	Bleach (35% chlorine) requirement of pulp, based on o. d. wt. %	Loss on bleaching, of weight of unbleached pulp %
231	(85)	Calcium	3.66	1.02	48.1	None	7.9	2.0
141	(86)	Calcium	3.37	1.02	49.6	None	13.3	3.1
174	(86)	Calcium	4.31	1.12	50.8	0.01	13.7	3.5
211	(86)	Calcium	3.68	1.09	49.3	None	11.1	2.0
191	(86)	Calcium	4.31	1.12	51.4	None	16.0	4.0
232	(86)	Ca-Mg	4.45	1.06	48.2	None	9.3	2.0
142	(86)	Ca-Mg	3.31	1.06	49.7	None	13.6	2.6
152	(86)	Ca-Mg	3.31	1.06	49.6	None	14.0	1.2
175	(86)	Ca-Mg	4.27	1.13	50.8	0.03	12.8	3.2
192	(86)	Ca-Mg	4.22	1.13	51.5	0.01	14.5	3.8
233	(86)	Magnesium	4.92	1.10	48.9	None	7.3	2.0
176	(87)	Magnesium	4.23	1.14	50.7	None	14.2	3.0
193	(87)	Magnesium	4.14	1.14	50.4	None	13.7	3.2

[83] loc. cit.
[84] loc. cit.
[85] Maximum digester pressure was carried to end of cook.
[86] Digester pressure reduced from the maximum after the fifth hour.
[87] Digester pressure reduced from the maximum after the third hour.
[88] The "Supplementary Data" for this Table is identically the same as that for Table 6, with the following additional information:
Moisture content of chips—
11.1% for cooks 174, 175, 176, 191, 192 and 193.
6.1% for cooks 211, 231, 232 and 233.

The general conclusion reached by Miller and Swanson in their above report was "that acid concentration differences whether produced by temperature variations at constant pressure or by pressure variations at constant temperature rise, have no great influence upon yield or the strength of the pulp."

Actually their highest yield in their set of five cooks and their lowest yield in the same set differed by 0.7 per cent (that is—48.4 per cent for cooks at 70 or 75 pounds pressure and 47.7 per cent yield for their 100 pound cook).

We have not repeated their work along this line and do not consider it necessary to do so. We do find, however, as can be seen in studying Table 9 that the manner in which the digester pressure is lowered or not lowered, during the last half or two-thirds of a cook has a very pronounced effect on the yield and bleaching qualities of pulp from spruce, particularly when one considers a cook, using liquor with a straight calcium base or a dolomitic base.

In considering, for instance, the straight calcium bisulphite

TABLE 10
YIELDS OF SULPHITE PULP PER CORD OF SPRUCE WOOD [89]

Cook No.	Special cooking conditions	Cooking liquor base	Yield of pulp (oven dry weight of pulp and chips) %	Yields of oven dry pulp: Unbleached pulp per cord lb.	Yields of oven dry pulp: Bleached pulp per cord lb.	Yields of air dry pulp: Unbleached pulp per cord lb.	Yields of air dry pulp: Bleached pulp per cord lb.
231	(85)	Calcium	48.1	1038	1017	1150	1129
141	(86)	Calcium	49.6	1070	1036	1189	1150
174	(86)	Calcium	50.8	1094	1056	1214	1171
211	(86)	Calcium	49.3	1061	1040	1180	1154
191	(86)	Calcium	51.4	1108	1061	1230	1180
232	(86)	Ca-Mg	48.2	1040	1020	1153	1131
142	(86)	Ca-Mg	49.7	1071	1042	1190	1157
152	(86)	Ca-Mg	49.6	1070	1058	1189	1173
175	(86)	Ca-Mg	50.8	1094	1060	1214	1177
192	(86)	Ca-Mg	51.5	1110	1069	1231	1184
233	(86)	Magnesium	48.9	1051	1030	1169	1142
176	(87)	Magnesium	50.7	1092	1060	1212	1177
193	(87)	Magnesium	50.4	1086	1050	1206	1166

[89] loc. cit.
[90] Maximum digester pressure was carried to end of cook.
[91] Digester pressure reduced from the maximum after the fifth hour.
[92] Digester pressure reduced from the maximum after the third hour.

TABLE 11
BLEACH REQUIREMENTS OF SPRUCE SULPHITE PULPS

Cook No.	Special cooking conditions	Cooking liquor base	Bleach requirements of pulps. Amount of bleach (35% available chlorine) in pounds needed for every 100 pounds unbleached pulp: Based on 100 lb. oven dry pulp %	Based on 100 lb. Air dry pulp (10% moisture content) %
231	(90)	Calcium	7.9	7.1
141	(91)	Calcium	13.3	12.0
174	(91)	Calcium	13.7	12.3
211	(91)	Calcium	11.1	10.0
191	(91)	Calcium	16.0	14.4
232	(91)	Calcium-Magnesium	9.3	8.4
142	(91)	Calcium-Magnesium	13.6	12.2
152	(91)	Calcium-Magnesium	14.0	12.6
175	(91)	Calcium-Magnesium	12.8	11.5
192	(91)	Calcium-Magnesium	14.5	13.0
233	(92)	Magnesium	7.3	6.6
176	(92)	Magnesium	14.2	12.8
193	(92)	Magnesium	13.7	12.3

[90] Maximum digester pressure was carried to end of cook.
[91] Digester pressure reduced from the maximum after the fifth hour.
[92] Digester pressure reduced from the maximum after the third hour.

cooks it will be seen that the yield of spruce pulp from a cook relieving during the last four hours is from 1.2 per cent to 2.7 per cent higher than for a similar cook with no final lowering in pressure before the end. The advantage appears to be partly overcome by the distinctly higher bleach consumption required of the former group of pulps. With cooks having a pressure lowering during the last six hours we get pulps with still higher yields (except for straight magnesium cooks) and correspondingly higher bleach consumption.

Economically it is hard to say which of these three types of cooks are best suited for the manufacture of book or coated papers. The manufacturers of news print or bag sulphite would undoubtedly prefer the conditions which favor the higher yield and higher bleach consumption. For the purpose of making experimental sulphite cooks we are convinced that our standard pressure lowering conditions (drop in pressure to 55 or 58 pounds during the last four hours) are quite satisfactory for comparative tests and that those conditions approach most closely to the true pressure conditions prevailing in most American quick cook sulphite mills which finish their cooks at approximately 145 to 148 degrees C.

Summary of Chapter IV

1. The importance of the first major operation in the making of a sulphite cook is emphasized. This operation has to do with the complete penetration of wood chips by the bisulphite part of the cooking acid, before running the temperature of the chips above 110 degrees C.

2. Our standard method of injecting sulphur dioxide gas into the top of our experimental sulphite digester during the first hour to aid penetration is shown to lead later to the production of little or no uncooked wood fragments or screenings.

3. The omission of this gas injection step is found to cause the production of 0.4 to 1.24 per cent screenings (except when cooking with a sodium bisulphite containing acid).

4. Our SO_2 gas injection operation is shown to resemble but not duplicate the principle on which Moore and Wolf's patent of December 8, 1914, is based.

5. This SO_2 gas injection at the beginning of a cook is found to give a pulp having a bleach consumption of about 13.5 per cent (based on the oven dry weight of unbleached pulp). Pulp obtained under nearly the same cooking conditions in which this SO_2 gas injection is omitted requires a bleach consumption of approximately 18.2 per cent (about 35 per cent higher than the other average).

Summary of Chapter V

1. The gradual lowering of the digester pressure to 55 to 58 pounds (while the liquor temperature is at 148 degrees C.) has two beneficial effects.

2. The first effect leads to a reduced sulphur consumption in

mill operation. This comes from dropping the partial pressure of the sulphur dioxide in the digester to 4 or 5 pounds before blowing.

3. The second and not previously appreciated effect from this lowering in digester pressure during the last few hours of a cook is that the pulp yields, particularly with calcium, are higher by 1.2 to 2.7 per cent than when the maximum digester pressure (75 pounds) is carried right through to the end of a cook.

4. This advantage of increased yield with lowered digester pressure is accompanied by the disadvantage of an increased bleach consumption.

5. A comparison is made among cooks made under three sets of relieving conditions. The best of the three operating conditions was thought to be that in which the lowering in digester pressure begins about four hours before the end of a cook.

6. By starting this lowering in pressure six hours before the end of a cook the yield of pulp was increased slightly and the bleach consumption was increased considerably over corresponding values obtained with the shorter period of pressure lowering.

Drier Canvas Troubles

SPECIAL INQUIRY No. 86

We recently installed a 236 inch machine with 48 five foot driers, speed—1,000 feet per minute.

We have had considerable trouble with our drier canvases narrowing up and have only been getting about one-half the life that we should get from them. Have checked the drier bearings and find everything to be moving easily.

DETAILS

1. The drier part of the paper machine is equipped with a hood and the machine has an open pit.
2. There is no piped air supply ventilating the machine either in the basement or in the pit and the only air that gets in comes through the windows and doors in natural ventilation. There is no appreciable cross ventilation on the paper machine and the hood is equipped with an exhaust fan in the discharge. This exhaust fan pulls off the top of the hood. It is connected with a long duct which in turn has inlets along the whole length of the hood.
3. We have experienced no special trouble from wet drier canvas. The narrowing of the drier canvas is a gradual action and there is no time in the life of the canvas where it is most pronounced.
4. The machine is equipped with two drier canvases, one top and one bottom and the present life of our bottom canvas is between 22 and 33 days and the top canvas about 45 days.

Corresponding details of installation and operating results with suggestions for an increased life of drier canvas should be given.

A transcript of the special report covering the injury will be sent to those who contribute to the discussion.

W. G. MACNAUGHTON, Sec. TAPPI
18 East 41st Street, New York.

Robertson Tissue Mills Sold

[FROM OUR REGULAR CORRESPONDENT]

HILSDALE, N. H., October 10, 1927.—The Robertson Company which operates three tissue paper mills at Ashuelot, N. H., has disposed of its mills to Alfred A. Gerade of Melrose Highlands, Mass.

The Paper Service Company, Inc., which manufactures toilet paper, towels and sheet tissues, has also sold its plant and equipment to Mr. Gerade.

The Robertson Company has leased the mills from Mr. Gerade and will operate as heretofore. The control of the paper Service Company has passed to the Robertson Company and it will now be operated as a division of this company.

Mr. Gerade when interviewed stated that he bought for investment and that the mills would continue to be operated as in the past.

To Head Northeastern Forest Experiment Station

Promotion of Dr. John S. Boyce, chief of the Portland, Oregon, office of Forest Pathology, Bureau of Plant Industry, to the directorship of the Northeastern Forest Experiment Station has just been announced by Secretary of Agriculture Jardine.

Since its establishment by the Department of Agriculture in 1923 with headquarters at Amherst, Mass., the Northeastern Station has been in charge of S. T. Dana, who has resigned to become dean of the new Michigan School of Forestry and Conservation at Ann Arbor. It is expected that Dr. Boyce will remain in Portland until early in 1928 in order to complete some important research projects on which he is now engaged. In the meantime, M. Westveld, Associate Silviculturist at the Northeastern Station, will be Acting Director and have charge of all work under way.

After graduation in 1912 from the Nebraska Forest School, Dr. Boyce entered the Forest Service as Forest Assistant at the Southwestern Forest Experiment Station, Fort Valley, Ariz. Later he was transferred to the Bureau of Plant Industry as Scientific Assistant in forest pathological work under the San Francisco office. In 1916 he entered Leland Stanford University, where he specialized in pathology and entomology, receiving his Ph.D. the following year. For the last eight years he has been in charge of the Portland office of Forest Pathology. Dr. Boyce is the author of a number of scientific publications, among the more important of which are: Dry Rot of Incense Cedar, Decays and Discolorations in Airplane Wood, A Study of Decay in Douglas Fir in the Pacific Northwest.

The permanent technical staff over which the new director will have supervision is engaged in the study of forest problems of the New England States and New York. Special attention is being given at present to the problems involved in growing crops of pulpwood on the cut-over forest lands of the Northeast. Statistical studies of forest fires and of forest fire weather and fuel relationships also are under way. These studies are being carried on with the assistance of many cooperating agencies, among which are the forestry departments of the several States, the Weather Bureau, forestry schools and agricultural colleges, and lumbermen's associations. In addition, studies of tree diseases and insect pests injurious to the forest are being conducted by the Bureaus of Plant Industry and Entomology in close cooperation with the station.

Begin Construction of Kelso Mill

PORTLAND, Ore., October 7, 1927.—Actual construction of the 30-ton paper mill which has been under consideration for several months, will begin immediately, according to word from officials of the concern. The plant is to be built on the site of the Kelso Shingle mill on the east bank of the Cowlitz river.

Machinery for the new plant is now being selected in the eastern industrial centers.

Permits for the balance of the sale of common stock of the company were granted recently by the Secretary of State.

Walter Clifford, associated with the Crown-Willamette company for a number of years, and at present located in Floriston, Cal., where the company is operating, will be manager of the Kelso mill.

Earl Knight, of the First National Bank of Kelso, is treasurer of the Kelso Paper company. Other men who are interested outside of the city will move to Kelso soon.

In the construction work a railway spur directly connecting with the Northern Pacific main line, is already in use, and will facilitate construction work and later speed up shipping of the finished product of the mill.

Between 50 and 60 men will be employed at first with others added when operation gets under way. Pulp will be purchased at the start from the open market until the company feels justified in running its own pulp plant. Tissue paper and fruit wrappers will be the chief output of the Kelso mill. It is expected that operation will start early in the spring.

Continuous Vacuum Filters in The Pulp and Paper Industry*

By M. W. Davis, United Filters Corporation

Until comparatively recent years the loss of large quantities of fiber in the mill effluent white water was regarded as a necessary evil by a majority of paper manufacturers. Fortunately, however, through the efforts of your association, allied associations and the various trade journals, together with the cooperation of several individual mills, the industry is beginning to recognize this tremendous unnecessary loss and many companies have already adopted corrective measures.

While the American is the only disk type of vacuum filter, there are several drum filters. The difference between the two types is primarily in the mechanical construction, but both function under substantially the same principles of operation. In filtering or dewatering the slush pulp or white water, the fiber is deposited on the wire cloth medium (usually 60 mesh) and the clear effluent drained from the pulp under a comparatively high vacuum.

While this operation appears to be similar to the ordinary decker or saveall, the efficiency is very much higher. This is due to the fact that by using a high vacuum it is possible to obtain good capacities when operating the filters at a much lower speed of rotation. During the instant a section of the filter medium passes into submergence, a small amount of fiber passes through the filter until a pulp mat has been formed on the wire cloth. However, during the balance of the filtration cycle, which is the major part, all the water is drawn through this pulp mat and as a result the composite filtrate has a very low fiber content. Take, for example, the thickening of ground wood. The ordinary decker gives a retention of fiber of approximately 80 to 85 per cent, whereas with a vacuum filter a retention of around 98 per cent is obtained. In some cases it is desirable to use a special valve construction permitting the first portion of the filtrate to be separated and returned to a previous step in the process. This produces even greater efficiency than previously mentioned.

Applications

The uses of continuous vacuum filters in the pulp and paper industry are many and varied. I will mention a few of the more common applications and briefly discuss them.

First. In place of deckers for thickening ground wood or chemical pulp. For this use the filters have many advantages. Of primary importance is the possibility of venting a part or all of the filtrate to the sewer with practically no fiber loss. By properly arranging the mill white water system it is possible to vent from the mill only clear filter effluent. Thus the filters serve the double purpose of very efficiently thickening the pulp and at the same time reducing the white water fiber losses from the whole mill system to a minimum.

The most important advantages of such a system may be summarized as follows:

1—Efficient thickening of pulp.

2—Reduction of white water fiber losses to a minimum.

3—Reduces the number of units as compared with ordinary deckers.

4—Greatly simplifies the entire white water and stock system, and also reduces the pumping costs.

5—Produces a better control of stock consistencies and, hence, better qualities.

6—Permits of a very flexible system as regards the use of fresh water with no appreciable effect on the fiber loss.

7—Substantial economy of floor space possible.

It is interesting to note that four large Canadian news print mills, namely—Manitoba Paper Co., Ltd., Ste Anne Paper Co., Ltd., Anglo-Canadian Pulp & Paper Mills, Ltd., and Spruce Falls Power & Paper Co., Ltd.—have adopted American filters for thickening both ground wood and sulphite as mentioned above.

Second application.—Vacuum filters are being very effectively used as combined chemical pulp thickeners and white water savealls. For example, in a news mill making all white paper the surplus white water from the paper machines can be mixed with the thin sulphite, either before or after screening, and the mixture thickened with vacuum filters. The high freeness sulphite pulp serves as an excellent filtering medium for the short white water fibers and therefore such an installation serves the double purpose of effectively thickening the sulphite pulp and in the same operation recovering the fiber in the white water.

Third application.—Vacuum filters used as savealls. In many cases it is desirable to use filters for the single purpose of saving the stock in the white water. This is especially true in mills producing colored or specialty paper where it is impractical to centralize the white water system for the entire mill.

When using filters only for the recovery of white water fiber, it is necessary to add a small portion of longer fibered stock to the white water handled in order to form the filtering mat required to produce a clear filter effluent. This longer fibered stock is simply "borrowed" and is returned to the system together with the recovered white water fiber. As the stock contained in the surplus white water from the paper machines can be returned either to the beater, Jordan or machine chest, machine furnish can be used as so-called borrowed stock to act as a filter medium. The system, therefore, can be self-contained for each paper machine.

The use of continuous vacuum filters for this service has of course the primary advantage over ordinary savealls in that it effects a considerably higher recovery. Filters have an advantage over the settling tank system in that they occupy far less space, and, due to the small amount of pulp contained in the filter vat, permit of readily changing orders on the machine with the loss of very little fiber during the change. The clear filter effluent can, if desired, be used for the paper machine showers with no possible plugging difficulties.

In passing, I might mention that vacuum filters may also be successfully used in the industry as washers for chemical pulp and bleached stock as well as for lime sludge, but the time will not permit a discussion of these applications.

While vacuum filters are a comparatively recent improvement in the pulp and paper industry, it is interesting to note that a survey of the field shows that in the United States and Canada alone some 75,000 square feet of filter area has been adopted.

Of the several advantages gained by the use of vacuum filters, the recovery of white water fiber is in most cases the primary consideration. It is impossible to state accurately the net fiber savings made by this equipment, but it is estimated to be in the neighborhood of 350 tons per day. Assuming the conservative average value of $20 per ton, this represents an annual net saving to the industry of over $2,000,000. This is not only a material factor in the resulting mill costs and profits but we should also bear in mind that every ton of pulp recovered has a bearing on our valuable national resource—the North American forest.

* Paper delivered at TAPPI meeting of the Chemical Exposition, New York, September 26, 1927.

Section of the

COST ASSOCIATION OF THE PAPER INDUSTRY

Affiliated with

THE AMERICAN PAPER AND PULP ASSOCIATION

Conducted by THOS. J. BURKE, C.A., Sec-Treas

The Profit Element*

By James H. Rand, Jr., Pres., Remington Rand Co., Tonawanda, N. Y.

Andrew Carnegie was the first cost accountant that ever entered into business in America. He was a Scotchman and he made a most excellent cost accountant; he had a sharp pencil. He always employed Scotch assistants in financial matters wherever he could, and also throughout the shop. To give an example of how thrifty those assistants of Andrew's were, I will tell you a story that he used to tell about one of those Scotch foremen, who was walking down the street and a friend accosted him and said, "Say, Aleck, do you know that your wife was in a railroad accident?"

Aleck replied, "No, was she?"

His friend said, "Yes, I saw it in the paper."

Then Aleck asked, "Have you a paper?"

His friend replied, "Why, no. There is a newsboy; you can buy one from him and find out whether she was seriously injured."

Then Aleck said, "I guess I will wait until the 5 o'clock edition and then I can get the baseball news, too."

Same Inside Financial History

Sometimes the big inside news of American financial history is not printed and is little known; but Andrew Carnegie knew his costs to the point where he was not afraid to compete with the giants of industry in those days. His contemporaries, although larger than he, did not understand costs and were largely in the hands of financiers, such as J. P. Morgan, the elder, who were good lawyers and administrators, but not practical cost accountants.

When the United States Steel Corporation was formed, in the early days, it comprised about 70 per cent of all of the then known steel companies. About this time Andrew Carnegie had made sufficient money so that he was ready to retire, and he made a proposition to the United States Steel Corporation—or rather, they asked him to make them a proposition—to sell out for $250,000,000. Mr. Morgan and some of his contemporaries talked with him and they threw up their hands. They said "$250,000,000? Why, that is outrageous! We would never think of paying you that much money." Whereupon Andrew Carnegie said, "Very well, gentlemen, the deal is off."

A few years later they decided that it was necessary for them to annex Andrew Carnegie's low-cost operating unit to their corporation, the United States Steel Corporation; and Charlie Schwab, J. P. Morgan and a man named Gage sat in Mr. Morgan's living room from 5 o'clock in the evening until 7 o'clock the next morning, sweating blood and trying to decide whether they could get along without Mr. Carnegie's low-cost producing units; and just as the day was dawning, Mr. Morgan turned to Charlie Schwab and said, "Go over and see how much you can buy Carnegie's steel business for. I have come to the conclusion that we have got to have it. His costs are too low."

Mr. Schwab then went over and talked to Mr. Carnegie and came back and said, "$500,000,000 is the price, and not a cent less."

They sweat blood for a few more hours and finally Mr. Morgan said, "Go over and pay it." So they went over and closed the deal.

Now, I maintain that the lack of knowledge of operating costs on the part of J. P. Morgan and the United States Steel Corporation cost the Steel Corporation $250,000,000 in three years' time. Ignorance of costs, gentlemen—think of it—$250,000,000 in three years' time.

Cost Man Comes Into His Own

So the cost man has come into his own, and from that day until this, costs and cost analysis have steadily come to the front.

Twenty years ago costs and cost men and cost departments were looked upon as something up to date, something to be adopted by large institutions that had a sufficient surplus to go into the work of compiling interesting statistics, which statistics were promptly filed away.

Ten years ago we found that cost departments were becoming very generally used and were commencing to have an effect upon many selling methods. Today the cost department of the average business is looked upon as a right arm of first importance in management. Without the cost department today 90 per cent of our business would be out of existence; they would not be able to live.

John H. Patterson once called a meeting of his executives for the purpose of analyzing their troubles. They were having sharp reductions in income and profit. Their income was all right, but their profits were very narrow and they could not understand it; so he called a general meeting of the executives to discover, if he could, what the trouble was; and at that meeting he called upon the executives, one by one, to suggest ways and means of immediately cutting down the costs of operation. He went around the room and they all had their say. Finally he came to Hugh Chalmers, who was then sales manager, and Mr. Chalmers said, "Mr. Patterson, if you will pardon my reference to another department I will tell you where we can save $100,000 a year without even affecting our business adversely in the slightest degree."

Mr. Patterson asked, "What department is that?"

* From N. A. C. A. Bulletin.

Mr. Chalmers replied, "Up on the top floor of our administration building there is a whole floor full of clerks that have been there for several years. I believe it is known as the cost department, where all of our manufacturing costs are analyzed. The whole top floor is full of clerks and calculating machines and red tape. If anybody in this room—sales managers, production managers, engineers, the office manager, treasurer, vice-president, or you, Mr. Patterson—can show where any use of those figures has been made in effecting lower manufacturing costs or lower selling costs, or has ever had any influence in changing our prices upward or downward, then I will withdraw my suggestion; but I defy anybody in this room to show where that department has been used to advantage at any time during the past twelve months."

Mr. Patterson asked the question, "Can anyone in the room show where it has been used to advantage or mention any case where those figures have had a beneficial effect upon the business?"

Not one suggestion was forthcoming according to the report. Whereupon the department was promptly abolished at a saving of $100,000 a year; and I say that department should have been abolished, and any department should be abolished which can be abolished without detriment to the business.

A Cost Department Second to None

Today the National Cash Register Company has built up a cost department which is second to none, and which is used day in and day out, month in and month out, to check their selling prices; not only their manufacturing and operating costs, but their selling costs, their advertising costs; and every department of the business is checked against certain standards which have been set up. That department is actually a vital force in the business and is having a very commendable effect. It is now a very indispensable department, although, as it was formerly, it was just a bunch of red tape, which should have been wiped out.

And so I am coming to one of my major premises in this talk, and that is that in order to insure the element of profit in business it is first necessary to see that your work—that is, the work of the cost men, of the cost department—is actively applied to the conduct of the business.

A General Criticism

Now, if I might make a general criticism from my observation of cost men, I might say that they have been too diffident and too silent about the things that they know. The day is coming—in fact, it is here now—when it is time for the cost man to speak out what he knows; for him to make a noise, and make a loud noise, because he has in his grasp the figures which are going to largely control the policies of his company.

You will be interested to know what effect cost analysis has had upon our business. We manufacture one article, which we call our leader, and which is of prime importance; that is, the visible card record cabinet, known as Kardex equipment. In these recent mergers we have sought not to spread-eagle—not to spread out and take in a diversified line of equipment—but rather to put ourselves in a position where we can more quickly become of benefit to business at large through the general distribution of a superior article to displace an inferior article.

When I say it is superior, I mean that it is superior from the standpoint of the user as compared with what has been used heretofore; and it is superior from the standpoint of the manufacturer because it is a specialty and not a staple commodity. As manufacturers we found ourselves in the temporary position—perhaps in a permanent position—of manufacturing facilities for a wide, diversified line of equipment used by banks, offices, and factories.

What made it possible for us to merge, with a fair degree of certainty as to the outcome, was the analyses of these lines of business by our cost department for the purpose of finding out, not so much how good they were, how efficient these plants were, as far as manufacture was concerned, but rather to find out how inefficient they were, how many barnacles they had accumulated over a period of forty or fifty years, which nobody had taken the time or trouble to prune off, and to tabulate what could be done when our standards of operating costs were applied to those other businesses. And I want to tell you that the result was amazing. We found, for example—I say "we;" I class myself as one of the cost men because I put a large amount of my time on that analysis—our cost department found in one company we took over that 90 per cent of the profit they had formerly been making was dissipated on high manufacturing costs, due to a variety of different practices, one of which was the making of too widely a diversified line of equipment—not enough standardization so they could get quantity production on any one of their models. We also found another case where more than half of the profit of the company—it was doing millions of dollars in volume—was produced by three articles that represented less than 25 per cent of the total volume. Think of it! Less than 25 per cent of the volume was producing the majority of the profit of that company.

I have often been asked if, in merging companies, in standardizing the products, eliminating and simplifying some of them, it would not be necessary to take a drastic cut in the total volume, and my answer has always been, "If a drastic cut in total volume results, let it come." We do not want to build volume that means no profit; and one of the first fundamentals of a successful business is that it must earn a profit so as to pay dividends to its stockholders. We have found that one article manufactured by one of our companies to a volume of $800,000 per year was causing us a loss of $32,400 per year. I ask you whether it were better to continue that volume of $800,000 or cut it off? Cut it off, of course.

Cost Department of the Future

The cost department of the future, then, is going to have more effect upon the profits of the business and upon the general management of business than any other single department. That is a broad statement, but I am going to qualify it by saying that those of you who are cost men, those of you who are treasurers, comptrollers, sales managers, and production managers, will probably agree with me when I say that the work of cost analysis has justified itself in production and should be extended to distribution. And, gentlemen, in my opinion the major portion of the work of the cost department of the future is going to be in applying recognized principles of cost analysis to sales expenses, for there is the greatest evil in present-day industry, the high cost, the extravagant outrageous cost, of distribution.

I recently attended a meeting of the National Association of Office Appliance Manufacturers, in Cleveland, and when I made the statement that the cost of selling was eating up the vitals of American business, every man in the room apparently agreed with me, and many of them came around afterwards and wanted to know if I could give them some of our experience as to just how they could cut down that high cost of selling.

Now, to get into technicalities for a little while, let me tell you one of the fallacies of business today as far as the cost of selling is concerned. Many institutions are now figuring their cost of selling in terms of the dollars and cents which they receive for their product directly from the middle man. I want to say that, in my opinion, is a radically wrong method. The cost of selling should be figured in terms of the price paid by the ultimate consumer. I can tell you of two instances where those two policies have clashed in our business. The Library Bureau had made a practice of selling through their own distributing organization, their branches and their own salesmen. They had a selling cost of approximately 37 per cent. The Globe-Wernicke* Company, of Cincinnati, had always made a practice of selling, except in a few cities, through dealer distribution, and still do, at a selling cost of 3 per cent, 3 per cent, mind you! Which is the more efficient of those two methods of distribution? You would say,

* Since this paper was delivered the Globe-Wernicke Company has resumed its original separate status.

naturally, that the Globe-Wernicke policy of 5 per cent was the more efficient; but it was the least efficient from our standpoint because they granted off the list price of their goods a discount of about 45 per cent to 50 per cent, depending upon the class of goods which they sold to the dealer. I hope I am not talking out of school now, but there are no secrets in our business any more. Now, you add to that discount of 45 per cent to 50 per cent the 3 per cent and you have a selling cost of from 48 per cent to 53 per cent, as compared with the 37 per cent of the Library Bureau, and you find that their selling costs are higher.

A Radical Change in Business

Now, I maintain that unless cost men can reduce the high cost of distribution and of selling, in the next few years—and it has got to be done quickly—we are facing a radical change in business, a new era in distribution. You are likely to wake up some morning and find that the world has changed in that its major products are being sold by your competitors direct from the factory to consumer instead of through the usual jobber, middle man, dealers, and the leeches on the profits all the way down the line to the ultimate consumer.

I have nothing against dealers at all, but I do believe that in order to avoid a radical disturbance in the next few years it is going to be necessary for us to cut the cost of selling. You men have got to figure out how that can be done, in co-operation with your sales departments.

On the Verge of a Test

I might say that we are on the verge of a test, in our own business, where in the next few weeks, a commodity will be offered direct to the consumers from our factory, and where all intervening sales costs are eliminated. We always go by tests, and if that test is successful we may add another article to it, and then another, until who knows but what we may do all of our business direct. But those things must be given careful consideration, because right now we are facing—and many of you are aware of it—a period of the fiercest competition that the world has ever known. I say that advisedly, and I am in pretty close touch with some of the biggest interests—financial and industrial—and also voice their sentiments. We are on the eve of a period of the fiercest competition that the world has ever known. I do not want to preach my own gospel—you know that I believe in the economical operation of big business; that united we stand and divided we fall, when it comes to competition and excessive operating costs; and that through mergers great economies can be effected—but I say that it is necessary for big business in the prime phases of industry to get together and trim their sales costs, either through mergers or through united co-operative action of some kind; and for this reason. On the other side of the water—in England, France, and Germany—right at this minute there are being formed cyclops of industry, giants of commerce. They are springing up on all hands and a great many of them through the aid of American capital. Those countries today are preparing for a trade war such as the world has never known. It means their life blood and they are bound and determined to get back their pre-war supremacy in foreign trade, in order to compete with the now existent large corporations in the United States, and in order to supersede, in foreign fields, the smaller corporations of the United States, they are forming these gigantic corporations with literally billions of dollars of capital back of them and, from the operating viewpoint, with the very minimum of operating costs, because Germany, Austria, Czecho-Slovakia and France are away ahead of the United States when it comes to cost analysis. I know what I am talking about because we have had a plant for five years in Germany and we have done business through forty or fifty branch offices, selling systems and methods of control to German business houses; and we have our fingers on the pulse of German capital. They are away ahead of us now on those things. Add to that, further economies in the cost of operation through combinations of capital, through the adoption of the American Henry Ford policy of straight-line production and progressive assembly, and you have something to contend with. Now, I say that our prosperity will be at stake unless we either get together or co-operate with other institutions in our line of business, in order to compete with foreign fields.

Now, mind you, the difference between prosperity and normalcy in the United States is only 20 per cent. The fluctuations of the volume of sales of corporations represented in this room in good times, as compared with a period of depression, will average about 20 per cent. That 20 per cent represents almost identically the proportion of foreign trade to domestic trade of our exports of American institutions as compared with their domestic sales volume.

Now, it makes no difference whether you are engaged in foreign trade or whether someone else is engaged in foreign trade, that 20 per cent has got to be shipped into foreign countries in order to give us an outlet for the surplus that exists in the United States today: Therefore, I say that our prosperity is at stake unless corporations put themselves in a position where they can compete in the markets of the world.

For our own company we adopted a policy, several years ago, of going over into Germany because we expected the Germans to compete with us in American markets and we wanted to start scratch at the crack of the gun, to build up an organization in Germany, so that if anyone in Germany started to manufacture our line of goods we could have an organization that was already larger than theirs, and with lower manufacturing costs, to ship over into the United States products of our manufacture on exactly the same wage scale and production basis as they would be operating on, and they would have nothing on us when it came to producing for the United States, as well as for South America and other foreign countries.

Intense Competition Coming

I say that we are coming to a period of intense competition. Perhaps next year, or in 1928, you will realize more fully what I have to say. I am not a pessimist and I am not unduly, I hope, an optimist on business. I believe we are going to have a healthy condition and a period of continued prosperity. What I mean by "prosperity" and what you mean by "prosperity" may be two entirely separate things; but I am convinced that Americans are sufficiently resourceful—and the kind of talk I am handing out tonight is being handed out not only here, but all over the United States, in various ways and by various individuals, because, after all, business men throughout the United States come pretty close to talking the same language—I believe that the resourcefulness of American business men is going to cause them to rise to the occasion, so that industry will be on a basis where we can compete.

Now, in this period of intense competition you are going to see—and you are seeing it already in American business—a narrowing margin of profit. Prices of commodities are actually going to tend lower. The purchasing power of the dollar, which varies almost inversely in proportion to the variation in commodity price levels, will gradually rise. In this period of low prices I predict—and I predict this within the next eight months—that you will see the price of one of the most important commodities with which we have to deal, i.e., money reduced. We have at the present time $4,500,000,000 in gold in our reserves in the United States; and with the exception of one month in 1924 that is the highest level of gold supply that we have ever known. I predict that that commodity known as money is going down with the other commodities in price because of an abundance of supply; and you will see, in the next eight or ten months, another reduction in the Federal Reserve rediscount rate which is now at 3½ per cent; you will see the prices of bonds—I am talking about first-class gilt-edged widows' and orphans' securities—on a basis of the old-time interest rates of 3½ per cent, 3¾ per cent and 4 per cent,

as compared with 4½ per cent, 4¾ per cent and 5 per cent, as at the present time.

Must Maintain Optimistic Attitude

Now, those conditions, I want to point out, in the light of American industrial and financial history, are the very conditions that are necessary for a prolonged period of prosperity; and I am one of those who believe that we are in for a prolonged period of prosperity that will last for several years. I am not worrying about this year or next year or the following year, barring minor ups and downs. I want to say that it is up to you, the kind of language that you talk, and the kind of ideas that you spread, to maintain a healthy and optimistic attitude so long as there are no clouds on the horizon; and I, for one, am unable to pick out any clouds on the business horizon at the present time. It is a pretty generally recognized fact, that the psychologic factor in business atmosphere is responsible for the extent of about 40 per cent for good business; that the economic factor is responsible for not over 60 per cent of prosperity. Now, if that is true, and the economic factor is sound, do not take my word for it, but listen to men like Mellon, Hoover, Charles Mitchell, Elbert Gary and all of the rest of them, who cannot afford to risk their reputation on wild statements as to financial conditions. Put them down as sound unless you know they are not; and if any man here knows of anything that indicates breakers ahead, I wish he would tell me before he leaves this room, because I do not see any. Therefore, there remains that psychologic factor, which is a 40 per cent factor. That is the thing we have got to look out for.

There are some astounding things that I cannot help but mention in passing. According to statistics collected by the government, of 298,000 major industries, 119,000, or 40 per cent, showed not only no profit, but an aggregate loss in the last 12 months of $2,000,000,000. Now, that is an astounding fact; but it is due, in my opinion, to the very absence of the thing which we are seeking to introduce into business, viz.: a proper application and consideration of costs and cost analyses. There is no excuse for any business failing to make a profit or to liquidate in a solvent condition.

Should We Prosper

When the Pilgrims came over in the Mayflower they did not engage, upon landing, in a poker game, where some of them made money and the others had to starve. No. They all went into business and did serious, hard work; and they produced a living, not for one, but for all of them; and their community was prosperous although they had to use a make-shift for a medium of exchange. The industrial world today is simply a magnification of this little colony in Plymouth, and there is no reason why we should not all prosper and make money; at least, we can liquidate in a solvent condition if we follow one of the immutable laws which I am going to state, namely, that we should limit our commitments to the amount of money which we take in from the sale of our product. Now, I want to state that as a cardinal principle of our business, and one which can be applied to a peanut stand or to United States Steel—After you have developed a working basis and hypothesis upon which we base your procedure, there is no reason why any corporation should not continue to operate at a profit—and a cash profit at that—or liquidate in a solvent condition. By way of proof I want to say that there is no business in the world that can go on spending or making commitments for more, in total dollars, than the cash which they take in over an extended period. In other words, if, year after year, we are going to make money in business, year after year we will have to show total commitments, which afterwards takes the form of wages and so forth, amounting to less than the cash which we take in during the corresponding period. You cannot let your commitments exceed your cash receipts; if you do, somebody has to put up the cash or you have got to get out.

If, therefore, you cannot do that—and everybody admits that fact—why try it? And if you are not going to try it, why, then, not conform? If you have been operating on a profitable basis in the last two years, analyze and find out how much you spend for manufacturing, how much for sales and subdivide that—how much you spend for advertising and how much for administrative expenses. After you have found out how much you spend, then take your cash receipts for a quarter or six months' period and deduct, first, the amount of profit that you are sure you made, and appropriate the balance for other purposes. Now, in our business we will take off at least 10 per cent. We are not satisfied to manufacture and stand the risk of doing business at less than a 10 per cent profit. If we take off 10 per cent and our cash collections are, we will say, $1,000,000 for one period, then during the ensuing period we have 90 per cent, or $900,000, to spend for all purposes in the business. We take—the sales manager, production manager, engineer and so forth—to appropriate as per his own ideas, which he has tabulated, with the aid of the cost department—the cost department always has its hand in it—and then his problem is to operate his department within his appropriation, and his efficiency is gauged largely by the results which he secures in the application of the funds made available to him through that budget. In the case of the advertising manager, for example, it would be just as much a sin for him to spend too little out of his appropriation as to spend too much, or exceed the allowance, because advertising is one of the main factors in getting new business. It is the life blood of the sales function. Now, all of the departments are charged with the responsibility of keeping within their appropriations, so that if they all spend up to their limit, they have spent a total of not exceeding $900,000, and we have something left. What does it amount to? $100,000, or 10 per cent on the volume of the cash that came in. And what is that to be used for? That is to be used 50 per cent for dividends and 50 per cent for building up the business, in the way of additions to plant and so forth, if we need them. If we do not, it is there in the way of a reserve. I believe that that policy is being followed by a great many corporations; and whether you know it or not, if your corporation is making money, it is following, in the last analysis, that program; and it is better to follow it consciously and intentionally than unintentionally. Now, if your cash collections drop off, you are going to shrink your appropriations accordingly; but you will always be keeping your commitments within your receipts, and you will be liquidating in a solvent condition. You cannot become financially embarrassed so long as you follow that plan. The reason I say "commitments" is because if you start tabulating your accounts payable—your invoices and so forth—you are doing something that a large rubber company tried to do and found it would not work. They tabulated the damage after the invoices came in, and that is like locking the door after the horse has been stolen, because when an invoice comes in, it must be paid; and they found that their commitments were on an aggregate larger than their balance; and they found themselves in the hands of the bankers. You must limit your commitments at the time they are made and not at the time the invoices are received.

Now, I want to ask you to do something for the good of American business: try to be optimistic in your conversation. So long as there are no breakers on the surface and there are no clouds on the horizon, do the right and the square thing by business. And, mind you, if you find a man who is pessimistic and who says that things are all going wrong, you tell him point blank, "Do not speculate on the stock market and you will be all right. Get back to work and come down to earth." In other words, gentlemen, nail the pessimist in his tracks and spread this gospel of optimism, which takes care of the 40 per cent factor of prosperity.

Don't Prune the Pay Roll

I say to you men who are cost accountants and you men who are treasurers, and all of you who are interested in reducing the cost to make, the cost to sell, and the cost to administer, more

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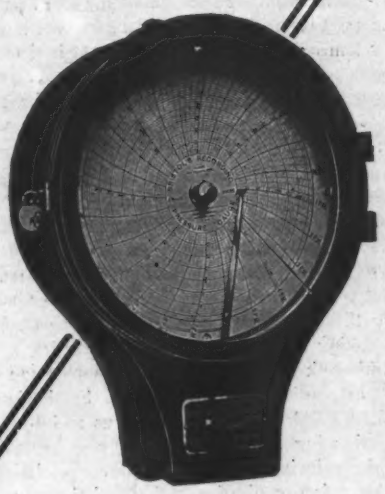
ALBANY GREASE

Adam Cook's Sons, Inc. 6 Varick St., New York

After 30 Years of Continuous Service

1897—1927

Without Requiring Repairs



Bristol's Recording Pressure Gauge

was recently taken from active duty at the Manayunk Pumping Station, Philadelphia.

NO REPAIRS have been required during these three decades of service. Charts and ink are the only items appearing on the maintenance expense list.

Truly a fine record; one which reflects the excellent quality, and dependability of material and workmanship which has placed Bristol's Recording Instruments above the ordinary.

A survey of instrument needs in your plant made by Bristol Sales Engineers may bring out many interesting ideas for improving present operating conditions. Write.

The Bristol Company *Waterbury, Connecticut*

FOR 38 YEARS MAKERS OF BRISTOL'S RECORDING INSTRUMENTS

power to you in your work; you are doing the thing that is necessary to put American industry where it belongs, to put it in position where it can compete. And do not try to economize on costs by taking the pruning knife to the pay roll. That is not the place to start. The place to start is up at the top. Start with the president if you will, and come down; and you will find more chances to economize among those who are holding down soft jobs at the top than you will with the men who are actually producing the goods. Go over the non-productive workers in the organization. Apply the test of indispensability to every job, and where you find that a man and his job are not indispensable, ask yourself, "What would happen if this man should drop dead?" And if you find that the business would go along without interruption to volume, to efficiency and to profit by the elimination, let him go off that job and let him go to work where he will become a productive worker. I say that industry is top heavy and it is time for us to start pruning; but let us start at the top. Wherever you find an opportunity to cut expenses, do not forget to make a noise about it and do not hesitate to speak up and call the attention of the management to those opportunities.

And so, in conclusion, I will say again that I am very glad to belong to this Association, which has such a commendable purpose. I believe that the cost man is going to be a top-notcher; that the future presidents of corporations are going to be a sort of a combination of lawyer, cost accountant, and sales manager. Now, that does not mean that a production manager cannot also be a president; for the cost accountant factor is the most important factor in the making up of the manager. Referring again to J. P. Morgan and his lack of knowledge of the application of the principles of cost accounting to the Carnegie Steel Company, which cost him $250,000,000 do not let any of us make the same mistake of underestimating the importance of cost analysis. If we follow along the principles for which your association was organized, I say that this organization and all of the other associations which are being built up in various parts of the country, are going to have a powerful influence in business and are going to take not only the risk out of competition, but they are going to put more joy into living our business lives.

Salesmen's Annual Fall Luncheon Program

The Salesmen's Association of the Paper Industry will hold its annual Fall Luncheon, 12:30 p. m., Tuesday, October 25, at the Congress Hotel, Chicago, during the week of the National Paper Trade Association meetings. A large attendance of salesmen from all sections of the country is expected.

President Coy, of the Salesmen's Association, has secured Henry A. Wise, general counsel of the Import Committee of the American Paper Industry, as speaker at the luncheon. Because of its active part in the original organization of the Import Committee, Mr. Wise's account of the work of preventing unfair competition from foreign paper will be of particular interest to the members of the Salesmen's Association.

At this luncheon, the Outterson Trophy will be presented to the division of the Salesmen's Association turning in the best team score for the Annual Tournament and the "American Paper Merchant's" Trophy will be awarded to the individual player who made the lowest net score.

V. E. Fishburn Goes With Gilman Paper Co.

Victor E. Fishburn, who has been mill manager at Groveton Paper Company for several years, has resigned and become associated with Gilman Paper Company, Gilman, Vt.

Prior to the war Mr. Fishburn was with Watab Paper Company, Sartell, Minn., and while there developed a sedimentation tester which is still used in many plants although the freeness tester has largely superseded it.

From 1919, when Mr. Fishburn was discharged from war service, he has been plant manager at Groveton, Vt.

E. A. Allen To Head New Departure Coast Office

The rapidly expanding demand for the New Departure Ball Bearing on the Pacific Coast has led its makers, the New Departure Manufacturing Company, to establish a branch engineering office at San Francisco. Elliott A. Allen has been appointed resident manager with offices at 1812 Van Ness Avenue, San Francisco. By this new arrangement, the Pacific Coast will be served in an engineering as well as sales capacity for the New Departure product.

Mr. Allen was graduated from Worcester Polytechnic Institute in 1911, and since then his work has been continuously and intensively with anti-friction bearings. His wide technical experience ably fits him to advise regarding the successful application of ball bearings to machine tools, electric motors, paper and pulp machinery, oil wells, logging and lumbering equipment, tractors, trucks and automobiles.

ELLIOTT A. ALLEN

Mr. Allen's experience during the war also included the design of ball bearings in various components of submarines and airplanes.

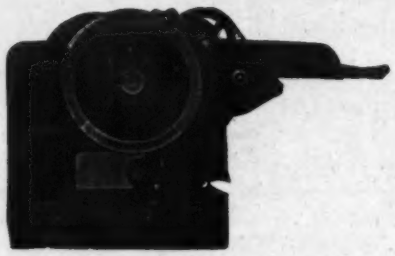
John W. Smith Goes To Windsor Locks

[FROM OUR REGULAR CORRESPONDENT]

CARTHAGE, N. Y., October 10, 1927.—John W. Smith, of this place, widely known in the paper industry as an inventor and consulting engineer, has accepted a position as consulting engineer with the Windsor Locks Mills, Inc., Windsor Locks, Conn. Mr. Smith this week assumed the duties of his new position. He will be associated with J. R. Draper, who was formerly general superintendent of the Carthage Paper Board Company. Mr. Draper is now superintendent for the Windsor Locks Mills which has been reorganized under his supervision.

TAYLOR, STILES & COMPANY
GIANT
RIEGELSVILLE, N.J. U.S.A.

RAG CUTTERS



TAYLOR, STILES & COMPANY

Riegelsville, N. J., U. S. A.

Canadian Representatives

Waterous Engine Works Company, Ltd., Brantford, Ont., Can.

Sole Agents for Europe

R. J. Marx, 133-139 Finsbury Pavement, London, E. C.

Starch

A SIMPLE change in the manufacturing process often results in a pronounced decrease in cost of production.

Paper Mills use Starch for sizing to produce better and stronger sheets with lower cost of manufacture.

Our SPECIAL PAPER brand for beater-sizing increases strength of sheet and gives improved finish.

Our FOX HEAD brand for top-sizing is more economical than all glue-size—gives perfect satisfaction.

Corn Products Refining Company

17 Battery Place New York

Starch

FLEXCO
H - D
Belt Fasteners

Every year sees a large increase in the number of users of FLEXCO H. D. Belt Fasteners. Their compression grip has worked out most satisfactorily from the practical standpoint. Note the tight butt joint. Made in five sizes for all conveyors from ¼ inch up to the largest.

The new FLEXCO Clip speed up application. They hold belt ends rigidly in position in plate while nuts are tightened. Now included in every box without added cost.

Write us for full description and nearest jobber. Consultation invited.

Flexible Steel Lacing Company
689 Lexington Street Chicago, Illinois

for
Conveyor Belts

706-HD

GDC

If you plan to take up
the
Manufacture of

New Paper Specialties

or if you are confronted with color problems of any kind, such as fastness to light, fastness to alkali, two-sidedness, please consult our newly equipped laboratories and our experienced staff.

230 Fifth Avenue
NEW YORK

GENERAL DYESTUFF
CORPORATION

Imports of Paper and Paper Stock

NEW YORK, BOSTON, PHILADELPHIA AND OTHER PORTS

NEW YORK IMPORTS

WEEK ENDING OCTOBER 8, 1927

SUMMARY

Cigarette paper .....543 cs.
Wall paper .....23 bls., 3 pkgs., 9 cs.
Paper hangings .....8 bls., 7 cs.
Hanging paper .....5 cs.
News print .....1,275 rolls
Printing paper .....92 rolls, 109 cs.
Wrapping paper .....53 bls., 42 cs.
Blueprint paper .....15 cs.
Packing paper .....11 bls., 51 cs.
Stencil paper .....52 cs.
Pergamyn paper .....58 cs.
Decalcomania paper .....39 cs.
Tissue paper .....41 cs.
Writing paper .....15 cs.
Filter paper .....107 bls., 83 cs.
Drawing paper .....73 cs.
Tracing paper .....2 cs.
Cover paper .....2 cs.
Surface coated paper .....165 cs.
Metal paper .....23 cs.
Baryta coated paper .....124 cs.
Coated paper .....10 cs.
Trunk paper .....5 cs.
Colored paper .....9 cs.
Envelopes .....39 cs.
Straw pulp board .....163 rolls
Straw board .....1,429 rolls
Miscellaneous paper .....1,410 rolls, 604 bdls., 213 cs.

CIGARETTE PAPER

R. J. Reynolds Tobacco Co., Pipestone County, Havre, 200 cs.
De Manduit Paper Corp., Pipestone County, Havre, 224 cs.
Liggett & Myers Tobacco Co., France, Havre, 10 cs.
P. J. Schweitzer, Pres. Adams, Marseilles, 109 cs

WALL PAPER

F. Blank, Deutschland, Hamburg, 6 cs.
Wedeman, Godknecht & Lally, Inc., Reliance, Hamburg, 3 pkgs.
F. J. Emmerich, Reliance, Hamburg, 4 bls.
A. C. Dodman, Jr., Inc., Berengaria, Southampton, 19 bls., 1 cs.
J. E. Bernard & Co., Berengaria, Southampton, 2 cs.

PAPER HANGINGS

W. H. S. Lloyd & Co., Minnetonka, London, 8 bls., 5 cs.
Whiting & Patterson Co., Inc., Olympic, Southampton, 2 cs.

HANGING PAPER

Downing & Co., France, Havre, 5 cs.

NEWS PRINT

F. Henjes, Jr., Deutschland, Hamburg, 62 rolls.
Ossian Ray, Gripsholm, Gothenburg, 81 rolls.
The Times Union, Gripsholm, Gothenburg, 20 rolls.
M. Gottesman & Co., Inc., Gripsholm, Gothenburg, 216 rolls.
A. S. Zabriskie, Stuttgart, Bremen, 77 rolls.
Parsons & Whittemore, Inc., Stuttgart, Bremen, 184 rolls.
Journal of Commerce, Korsholm, Wiborg, 235 rolls.

PRINTING PAPER

E. Dietzgen & Co., N. Amsterdam, Rotterdam, 25 cs.
C. Steiner, N. Amsterdam, Rotterdam, 11 cs.
C. Steiner, Rotterdam, Rotterdam, 13 cs.
Hensel, Bruckman & Lorbacher, Rotterdam, Rotterdam, 10 cs.
Heemooth, Basse & Co., Reliance, Hamburg, 50 cs.
Keuffel & Esser Co., Reliance, Hamburg, 92 rolls.

WRAPPING PAPER

Birn & Wachenheim, Pennland, Antwerp, 21 cs.
E. Dietzgen & Co., Deutschland, Hamburg, 21 cs.
C. Steiner, Rotterdam, Rotterdam, 53 bls.

BLUEPRINT PAPER

P. Puttman, Pennland, Antwerp, 15 cs.

PACKING PAPER

Beekman Paper & Card Co., N. Amsterdam, Rotterdam, 6 cs.
International Forwarding Co., N. Amsterdam, Rotterdam, 6 cs.
Hensel, Bruckman & Lorbacher, N. Amsterdam, Rotterdam, 3 cs.
Haule Wax Paper Manfg. Co., Deutschland, Hamburg, 10 cs.
Birn & Wachenheim, Deutschland, Hamburg, 10 bls.
Haule Wax Paper Manfg. Co., Reliance, Hamburg, 15 cs.
Steffens Jones Co., Rotterdam, Rotterdam, 5 cs., 1 ble.
Beekman Paper & Card Co., Rotterdam, Rotterdam, 6 cs.

STENCIL PAPER

Arlac Dry Stencil Co., Deutschland, Hamburg, 52 cs.

PERGAMYN PAPER

F. C. Strype, Deutschland, Hamburg, 38 cs.
F. C. Strype, Reliance, Hamburg, 20 cs.

DECALCOMANIA PAPER

B. F. Drakenfeld & Co., Carinthia, Liverpool, 28 cs.
C. W. Sellers, Pres. Harding, Bremen, 2 cs.
C. W. Sellers, G. Washington, Bremen, 2 cs.
L. A. Consmiller, Stuttgart, Bremen, 7 cs.

TISSUE PAPER

Schenckers, Inc., Capetown Maru, Hamburg, 41 cs.

WRITING PAPER

F. L. Kramer, Tuscania, London, 8 cs.
J. W. Hampton, Jr., & Co., Pipestone County, Havre, 4 cs.
B. Altman & Co., Reliance, Hamburg, 2 cs.
American Express Co., Berengaria, Southampton, 1 cs.

FILTER PAPER

H. Reeve Angel & Co., Inc., Tuscania, London, 3 cs.
H. Reeve Angel & Co., Inc., Olympic, Southampton, 35 bls., 10 cs.
E. Fougera & Co., Olympic, Southampton, 70 cs.
J. Manneimer, Olympic, Southampton, 72 bls.

DRAWING PAPER

H. Reeve Angel & Co., Inc., Tuscania, London, 6 cs.
Favor, Ruhl & Co., France, Havre, 2 cs.
Keuffel & Esser Co., Reliance, Hamburg, 65 cs.

TRACING PAPER

Keuffel & Esser Co., Deutschland, Hamburg, 2 cs.

COVER PAPER

International Forwarding Co., Deutschland, Hamburg, 2 cs.

SURFACE COATED PAPER

P. C. Zuhlke, Pennland, Antwerp, 80 cs.
P. Puttman, Pennland, Antwerp, 53 cs.
Whiting & Patterson Co., Inc., Deutschland, Hamburg, 1 cs.
Globe Shipping Co., Deutschland, Hamburg, 30 cs.
C. A. Redden, Rotterdam, Rotterdam, 1 cs.

METAL PAPER

Hensel, Bruckman & Lorbacher, Stuttgart, Bremen, 23 cs.

BARYTA COATED PAPER

Globe Shipping Co., Stuttgart, Bremen, 93 cs.
Globe Shipping Co., G. Washington, Bremen, 31 cs.

COATED PAPER

Drytype Stencil Co., Reliance, Hamburg, 10 cs.

TRUNK PAPER

P. H. Petry & Co., Reliance, Hamburg, 5 cs.

COLORED PAPER

P. H. Petry & Co., Reliance, Hamburg, 6 cs.
Phoenix Shipping Co., G. Washington, Bremen, 3 cs.

ENVELOPES

J. Beckhard, G. Washington, Bremen, 39 cs.

STRAW PULP BOARD

J. P. Heffernan Paper Co., N. Amsterdam, Rotterdam, 163 rolls.

STRAW BOARD

Perkins, Goodwin & Co., N. Amsterdam, Rotterdam, 459 rolls.
R. Wilson Paper Corp., N. Amsterdam, Rotterdam, 212 rolls.
Haas Bros., N. Amsterdam, Rotterdam, 192 rolls.
A. Vuyk, N. Amsterdam, Rotterdam, 152 rolls.
State Bank, N. Amsterdam, Rotterdam, 114 rolls.
A. Vuyk, Rotterdam, Rotterdam, 123 rolls.
State Bank, Rotterdam, Rotterdam, 177 rolls.

MISCELLANEOUS PAPER

Keuffel & Esser Co., N. Amsterdam, Rotterdam, 5 cs.
H. D. Catty Co., N. Amsterdam, Rotterdam, 1 cs.
S. Gilbert, N. Amsterdam, Rotterdam, 12 cs.
Walker, Goulard, Plehn Co., Inc., Deutschland, Hamburg, 604 bdls.
G. A. Vedovic & Co., Roma, Genoa, 8 cs.
The Borregaard Co., Inc., Gripsholm, Gothenburg, 1,410 rolls.
E. H. Sergeant & Co., Gripsholm, Gothenburg, 2 cs.
Standard Products Corp., La Savoie, Havre, 10 cs.
Quality Art Novelty Co., De Grasse, Havre, 13 cs.
Keller-Dorian Paper Co., France, Havre, 14 cs.
Japan Paper Co., France, Havre, 8 cs.
F. B. Vandegrift & Co., France, Havre, 8 cs.
Guibout freres, France, Havre, 4 cs.
Freedman & Slater, Reliance, Hamburg, 4 cs.
Steiner Paper Corp., Rotterdam, Rotterdam, 45 cs.
H. D. Catty Co., Rotterdam, Rotterdam, 1 cs.
Hudson Trading Co., Rotterdam, Rotterdam, 14 cs.
Japan Paper Co., C. Biancamano, Genoa, 64 cs.

RAGS, BAGGINGS, ETC.

Equitable Trust Co., Caledonia, Glasgow, 81 bls. paper stock.
E. J. Keller Co., Inc., Caledonia, Glasgow, 43 bls. rags.
E. Mayer, Deutschland, Hamburg, 29 bls. rags.
Equitable Trust Co., Celtic, Liverpool, 37 bls. new cuttings.
A. W. Fenton, Inc., Stuttgart, Bremen, 27 bls. rags.
Castle & Overton, Inc., Hellig Olav, Copenhagen, 78 bls. bagging.
Chase National Bank, Hellig Olav, Copenhagen, 125 bls. rags.
V. Galaup, Pipestone County, Dunkirk, 385 bls. rags.
Salomon Bros. & Co., Pipestone County, Dunkirk, 46 bls. rags.
W. Lowenthal & Co., Pipestone County, Dunkirk, 29 bls. rags.
E. Mayer, Pipestone County, Dunkirk, 22 bls. rags.
Castle & Overton, Inc., Pipestone County, Havre, 50 bls. bagging.
V. Galaup, Pipestone County, Havre, 50 bls. rags.
American Exchange Irving Trust Co., Texas Maru, Naples, 106 bls. rags.
S. Birkenstein Sons, Texas Maru, Oran, 115 bls. rags.
E. J. Keller Co., Inc., Texas Maru, ——, 217 bls. rags.
E. Butterworth & Co., Inc., Balsam, Manchester, 259 bls. rags.
E. Butterworth & Co., Inc., Balsam, Belfast, 97 bls. rags.
M. Snedeker Corp., Balsam, Belfast, 86 bls. rags.
A. W. Fenton, Inc., Wytheville, Rotterdam, 162 bls. bagging.
Ultramares Corp., Wytheville, Rotterdam, 1,334 bls. rags.
E. A. Stone Co., Inc., Wytheville, Rotterdam, 174 bls. rags.
Darmstadt, Scott & Courtney, Zinal, Barcelona, 60 bls. bagging.
Goldman, Sachs & Co., Zinal, Barcelona, 118 bls. rags.
E. J. Keller Co., Inc., Zinal, Marseilles, 112 bls. rags.
Castle & Overton, Inc., V. Emmanuelle III, England, 93 bls. rags.
Castle & Overton, Inc., S. Ventana, Bremen, 115 bls. bagging.

OLD ROPE

Brown Bros. & Co., N. Amsterdam, Rotterdam, 56 coils.
Brown Bros. & Co., Rotterdam, Rotterdam, 67 coils.
Equitable Trust Co., London Exchange, London, 63 coils, 17 bls.

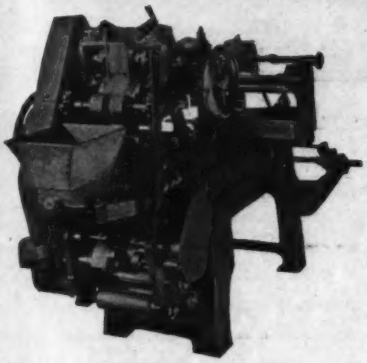
CASEIN

D. C. Andrews, Deutschland, Hamburg, 105 bags.
Innes, Speiden & Co., Pipestone County, Havre 250 bags, 25,004 ks.

WOOD PULP

J. Anderson & Co., Capetown Maru, Hamburg, 525 bls. sulphite, 105 tons.

(Continued on page 66)



HIGHEST SPEED
Paper Bag Machinery

Get My Quotations Before Placing Your Orders
Special Machinery Designed and Built

A. L. PARRISH,
1702 Robinson St., South Bend, Ind.

Prompt deliveries made from stocks in
NEW YORK
BOSTON
PHILADELPHIA
CHICAGO

TRADE U MARK

Experience

It counts in manufacturing dyestuffs, as elsewhere. Users of Heller & Merz colors are drawing dividends on the 58 years we have been making quality dyestuffs. They are dividends of satisfaction, which we would like to pay you also.

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505 Hudson St., New York

Boston 287 Atlantic Ave. | Chicago 146 W. Kinzie St. | Philadelphia 114 Market St.

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Factory—NEWARK, N. J.

SOME PAPER MILL USERS OF
Badenhausen Boilers
Superheaters :: Preheaters

Geo. F. Hardy, Consulting Engineer, New York
For Southern Paper Co., two orders, total 4700 H.P.
For St. Croix Paper Co. ..... 1200 H.P.
For Brown Paper Mill Co. ..... 3430 H.P.
Central Paper Co., Muskegon, Mich., four orders, total ..... 3100 H.P.
Philadelphia Paper Mfg. Co., Phila., three orders, total ..... 2400 H.P.
Jessup & Moore Paper Co., Phila., four orders, total ..... 4750 H.P.
Ontario Paper Co., Ltd.
For Daily Newspaper Co., North Tonawanda, N. Y. ..... 2034 H.P.
Filer Fibre Company, Filer City, Mich. ..... 1500 H.P.
John Lang Paper Co., Philadelphia, Pa. ..... 416 H.P.
Bayless Manufacturing Corp., Austin, Pa. ..... 1300 H.P.
Northern Board & Paper Co., San Francisco, Cal., two orders, total ..... 400 H.P.
Crown Willamette Paper Co., San Francisco, Cal., two orders, total ..... 750 H.P.
Delaware Hard Fibre Co., Wilmington, Del., two orders, total ..... 920 H.P.
Kieckhefer Container Co., Delair, N. J. ..... 1800 H.P.

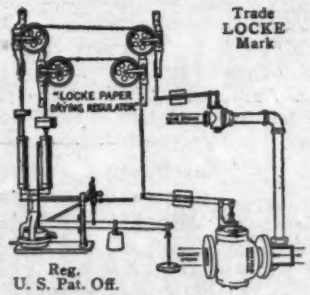
Badenhausen Corporation
Reg. U. S. Pat. Off.
GENERAL OFFICE, 1011 CHESTNUT ST.
PHILADELPHIA, PA., U. S. A.

120 Broadway, New York | 211 Tramway Bldg., Denver
Reibold Bldg., Dayton, O. | 513 House Bldg., Pittsburgh
1019 Guardian Life Bldg., St. Paul

LOCKE Paper
Drying Regulator

Controls both live and exhaust for any purpose where steam is used, or it will control the direct steam when used alone. While most sensitive to any change in temperature of dryers, it has been found to be perfectly reliable and, furthermore, it is not continually getting out of order—the common regulator trouble.

Other Locke Steam Specialties.



Trade LOCKE Mark

Reg. U. S. Pat. Off.

Locke Regulator Co., 76 North St., Salem, Mass.

Ham Feltz says:

"Felts is much like automobile tires—it's the extra mileage as makes the big hit. Of course such tires as are built to run a long ways may cost a few cents more in the first place but oh boy, when they've gone a far ways that extra cost is as nothin'. Same with Hamilton Felts—they may cost a little more in the first place but the extra mileage they give makes them the cheapest."

Hamilton Felts

Imports of Paper and Paper Stock

(*Continued from page 64*)

E. M. Sergeant & Co., Gripsholm, Gothenburg, 299 bls. dry soda pulp.
Woodpulp Service Corp., Gripsholm, Gothenburg, 125 bls. sulphite.
Castle & Overton, Inc., Stuttgart, Bremen, 2,258 bls. wood pulp.
Atterbury Bros., Inc., Hellig Olav, Oslo, 500 bls. wood pulp.
M. Gottesman & Co., Inc., Milos, Stockholm, 1,000 bls. wood pulp.
E. M. Sergeant & Co., Milos, Hernosand, 1,800 bls. sulphite, 300 tons.
J. Anderson & Co., Milos, Hernosand, 2,850 bls. sulphite, 475 tons.
J. Anderson & Co., Milos, Hernosand, 2,000 bls. sulphate, 400 tons.
J. Anderson & Co., Milos, Stugsund, 3,000 bls. sulphite, 609 tons.
Bulkley, Dunton & Co., Milos, ——, 6,025 bls. wood pulp, 1,184 tons.
Sonora Lumber Co., Peer Gynt, Inhabitants Bay, 823 cords pulp wood.
E. M. Sergeant & Co., Korsholm, Gothenburg, 499 bls. dry soda pulp.
E. M. Sergeant & Co., Korsholm, Gothenburg, 400 bls. sulphite.
Atterbury Bros., Inc., Korsholm, Gothenburg, 500 bls. sulphite.
American Exchange Irving Trust Co., M. Washington, Trieste, 245 bls. wood pulp.
Bulkley, Dunton & Co., M. Washington, ——, 490 bls. wood pulp.
Bulkley, Dunton & Co., Deutschland, ——, 254 bls. wood pulp.
M. Gottesman & Co., Inc., Veendam, Hamburg, 25 bls. wood pulp.

WOOD FLOUR

Speiden Whitfield & Co., N. Amsterdam, Rotterdam, 200 bags.
State Chemical Co., N. Amsterdam, Rotterdam, 400 bags.
State Chemical Co., Wytheville, Rotterdam, 562 bags, 34,100 ks.
The Burnet Co., Gripsholm, Gothenburg, 291 bags.
A. Kramer & Co., Rotterdam, Rotterdam, 500 bags.

WOOD PULP BOARDS

Lagerloef Trading Co., Deutschland, Hamburg, 619 rolls, 98 tons.

PORTLAND IMPORTS

WEEK ENDING OCTOBER 8, 1927

Atterbury Bros., Inc., Korsholm, Stockholm, 900 bls. sulphite.
Waterfalls Papermills, Korsholm, Gothenburg, 6,000 bls. wood pulp.
The Borregaard Co., Inc., Korsholm, Gothenburg, 1,170 bls. wood pulp.

NEW ORLEANS IMPORTS

WEEK ENDING OCTOBER 8, 1927

Castle & Overton, Inc., Topa Topa, England, 283 bls. rags.

PHILADELPHIA IMPORTS

WEEK ENDING OCTOBER 8, 1927

Phila. Girard National Bank, London Exchange, London, 237 bls. rags.
E. J. Keller Co., Inc., London Exchange, London, 77 bls. rags.
Equitable Trust Co., London Exchange, London, 31 bls. rags.
O. G. Hempstead & Co., London Exchange, London, 273 bls. rags.
H. Reeve Angel & Co., Inc., London Exchange, London, 2 cs. drawing paper.
E. J. Keller Co., Inc., Coer d'Alene, ——, 326 bls. bagging.
E. J. Keller Co., Inc., Coer d'Alene, ——, 56 bls. bagging.
E. J. Keller Co., Inc., Binnendyk, Amsterdam, 61 bls. rags.
Castle & Overton, Inc., Tomalva, Antwerp, 1,035 bls. rags.
Castle & Overton, Inc., Kenmore, England, 45 bls. paper stock.
Castle & Overton, Inc., Erfurt, Germany, 201 bls. rags.
Castle & Overton, Inc., Laguna, Africa, 108 bls. rags.
Castle & Overton, Inc., Westerdyk, Holland, 67 bls. rags.
Castle & Overton, Inc., Daytonian, England, 101 bls. rags.
Castle & Overton, Inc., Sacandaga, Antwerp, 15 bls. rags.
Castle & Overton, Inc., Cabo Mayor, Spain, 50 bls. rags.
Castle & Overton, Inc., McKeesport, France, 353 bls. rags.

BALTIMORE IMPORTS

WEEK ENDING OCTOBER 8, 1927

M. Gottesman & Co., Inc., Fredensbro, Stockholm, 4,500 bls. wood pulp.
M. Gottesman & Co., Inc., Saga, Stockholm, 6,300 bls. wood pulp.
E. J. Keller Co., Inc., Binnendyk, ——, 300 bls. wood pulp.
Robert Blank, Ossa, Leghorn, 186 bls. rags.
Castle & Overton, Inc., ——, Germany, 1,502 bls. wood pulp.

BOSTON IMPORTS

WEEK ENDING OCTOBER 8, 1927

American Express Co., Celtic, Liverpool, 153 coils rope.
Brown Bros. & Co., Bolivian, London, 218 coils rope.
Baring Bros. & Co., Bolivian, London, 106 bls. waste paper.
Crocker Burbank Co., Bolivian, London, 530 bls. waste paper.
1st National Bank of Boston, Bolivian, London, 150 bags casein.
Hughes Fawcett Co., Pipestone County, Dunkirk, 45 bls. rags.
A. J. Darman Co., Pipestone County, Dunkirk, 34 bls. thread waste.
Keltie & Co., Pipestone County, Dunkirk, 28 bls. thread waste.
Cordingley Co., Pipestone County, Dunkirk, 11 bls. thread waste.
Forte Moran Co., Pipestone County, Dunkirk, 38 bls. rags.
Laughlin Freeman, Pipestone County, Havre, 1 cs. writing paper.
Mystic Waste Co., Pipestone County, Havre, 23 bls. rags.
Salomon Bros. Co., Pipestone County, Havre, 43 bls. rags.
Robert Blank, Pipestone County, Havre, 208 bls. rags.
V. Galaup, Pipestone County, Havre, 10 bls. rags.
E. M. Sergeant & Co., Korsholm, Gothenburg, 299 bls. dry soda pulp.
D. M. Hicks, Inc., Korsholm, Gothenburg, 125 bls. sulphite.
Beech Nut Packing Co., Korsholm, Gothenburg, 213 rolls wrapping paper.
Parsons & Whittemore, Inc., Korsholm, Gothenburg, 180 bls. sulphite.
The Borregaard Co., Inc., Korsholm, Gothenburg, 1,500 bls. wood pulp.
J. Anderson & Co., Korsholm, Gothenburg, 1,750 bls. sulphite.
Price & Pierce, Ltd., Korsholm, Gothenburg, 750 bls. wood pulp.
Robert Blank, J. Skinner, Hamburg, 116 bls. rags.
Buck, Kiaer & Co., Inc., Dania, Oslo, 2,960 bls. sulphite.

Bids and Awards for Government Paper

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., October 12, 1927.—The Government Printing Office has received the following bids for 2,172 pounds of 22½x28½—362 fawn index: Dobler & Mudge, at 20 cents per pound; Old Dominion Paper Company, .199 cents; Walker Goulard Plehn Company, 33 cents; Carew Manufacturing Company, .295 cents; and R. P. Andrews Paper Company, 19 cents.

The Printing Office will receive bids on October 17 for 45,000 pounds (160,000 sheets) of various sizes high finish sulphite manila tag board.

The Government Printing Office has received the following bids for 3,000 pounds of 22x28 gray photo mount board: Whitaker Paper Company, at $6.42 per C sheets; Charles G. Stott & Company, $6.445; R. P. Andrews Paper Company, $6.24; Stanford Paper Company, $6.73; and Mathers-Lamm Paper Company, $6.60.

The Whitaker Paper Company has been awarded the contract for furnishing the Printing Office with 34,500 pounds (300,000 sheets) of 38x48—115 M.F. book paper: at .105 cents per pound, bids for which were received on September 21.

The Virginia Paper Company will furnish 11,365 pounds (32,158 sheets of 26x42 white rope drumhead paper at .2032 cents per pound, bids for which were received on September 14.

To Test New Process for News Print

[FROM OUR REGULAR CORRESPONDENT]

WASHINGTON, D. C., October 10, 1927.—It has been announced in Australia, according to information received here from Trade Commissioner E. C. Squire, at Sydney, that private interests are to spend up to 50,000 pounds in testing the process for the manufacture of news print which has been evolved by the Council of Scientific and Industrial Research. This method, according to newspaper reports, consists of the use of a mixture of chemical pulp specially prepared from eucalyptus timber together with not more than 25 to 30 per cent of ground wood. Tests heretofore made by the Council have not been considered commercially possible. Australian news print consumption during the past five years has doubled from 60,000 to 120,000 tons.

Kalamazoo Stationery Co. Builds

[FROM OUR REGULAR CORRESPONDENT]

KALAMAZOO, Mich., October 10, 1927.—Work has started at the Kalamazoo Stationery Company on a two story addition that will insure 64,000 square feet of additional floor space. The structure will be 200 by 160 feet in dimensions and will be used for warehouse and shipping purposes. The O. F. Miller Company has the contract.

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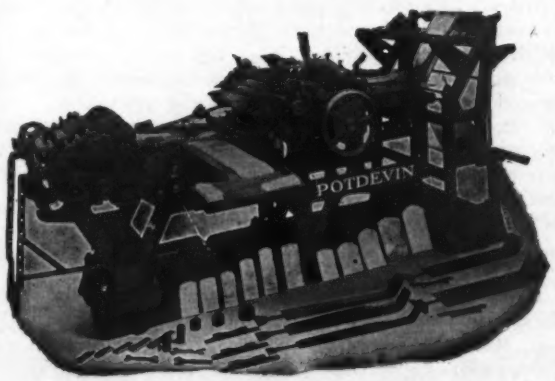

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New York Market Review

Office of THE PAPER TRADE JOURNAL,
Wednesday, October 12, 1927.

Demand for the various grades of paper was well sustained during the past week and the local market is exhibiting a strong undertone. Inquiries for future business are more numerous than for some time and the closing months of the year promise to be unusually active. Sales forces of the leading paper houses are in the midst of a strenuous autumn campaign and are generally optimistic over the outlook for the future.

Production of news print is being maintained in good volume and is being freely absorbed by the publishers. The demand for supplies during the next few months is expected to be exceptionally heavy. Contract withdraws are moving at a satisfactory pace. Quotations are holding up to the schedule which has been in force for some considerable time.

The position of the paper board market is practically unchanged. Box board continues in good request and prices remain steady to firm. Demand for fine papers is more persistent than for some time. Quotations are generally unaltered. The coarse paper market is also quite active and wrapping paper is moving in satisfactory volume. Prices are holding up to schedule.

Mechanical Pulp

Some slight improvement was noticed in the demand for ground wood and the paper mills are apparently beginning to take more interest in both the domestic and the imported grades. Supplies are said to be moving into consumption in a normal manner. Prices are practically unchanged and reports of shading are infrequent.

Chemical Pulp

No radical developments transpired in the chemical pulp market during the past week. Demand for both the foreign and domestic grades was fairly satisfactory. Contract shipments were reported to be well up to average. No further price changes were recorded since the preceding week and there was little talk of further concessions around.

Old Rope and Bagging

More interest was displayed by the paper mills in imported and domestic old rope and a livelier market is anticipated in the near future, in some quarters. Prices remain steady and unchanged, in most instances. Bagging is also said to be in better request and the outlook for the immediate future is encouraging.

Rags

The domestic rag market is fairly active. Demand for the various grades is slowly improving now that paper production is being maintained in heavier volume. The position of the foreign rag market has not changed to any great extent. Prices of the various grades are practically unchanged.

Waste Paper

Lower grades of paper stock have been freely absorbed of late by the board mills. Supplies are said to be rather limited and the recently advanced prices are holding, in most instances. While the request for the better grades has not been quite so persistent, stocks are moving at a fairly satisfactory rate. Prices continue to rule steady to firm.

Twine

Trading in the twine market is becoming more lively now that the holiday season is approaching. As the demand for wrapping paper is expanding, the improvement in the twine industry may be confidently expected to continue for some little time, at least. The recent advances in the price of cotton twines are being maintained with little difficulty.

Lake Champlain Plant Sold

[FROM OUR REGULAR CORRESPONDENT]

PLATTSBURG, N. Y., October 8, 1927.—The plant of the Lake Champlain Pulp and Paper Company, of this city, which has been in the hands of a receiver following bankruptcy proceedings, was sold at public auction this week. Two bids were received for the plant, there being but one dollar difference between the two. The successful bidder was Charles Miller, of this city, who bid in the plant for $90,001. Leander Bouyea, also of Plattsburg, offered $90,000.

The plant of the Champlain Pulp and Paper Company is a valuable property and it is understood that plans are under way which will result in a resumption of operations at the mill in the near future.

Luzerne Paper Mill Improvements

[FROM OUR REGULAR CORRESPONDENT]

LUZERNE, N. Y., October 8, 1927.—The Luzerne Paper Corporation, operating the local paper mill, is planning some important improvements as a step towards greater production. The company has contracted for a new steam turbine and generator and will electrify the paper machines. When this work is completed the entire supply of water power will be used to operate the beaters. These changes will mean a large increase in production.

Heretofore the Luzerne mill has used water power exclusively for operating purposes and because of the fluctuating flow in the Sacandaga River operations have been hampered at times. The installation of the new power unit and electrification of the paper machines will allow steadier operation of the plant.

Superintendents at Raubsville and Hadley

In the issue of the PAPER TRADE JOURNAL it was reported that P. H. Moran had joined the Northampton Paper Mills, Raubsville, Pa. The PAPER TRADE JOURNAL is informed, however, that Mr. Moran is still connected with the Luzerne Paper Corporation, Hadley, N. Y., being superintendent of both mills and dividing his attention between the two.

William Carmody

CHATTANOOGA, Tenn., October 8, 1927.—William Carmody, superintendent of the Tennessee Paper Mills, Inc., died recently after a brief illness, due to typhoid fever. He was one of the best box board men in the country and his death at the age of 46 years is a loss to the paper industry.

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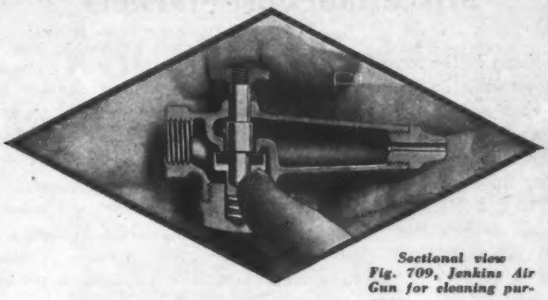

Sectional view Fig. 709, Jenkins Air Gun for cleaning purposes.

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Miscellaneous Markets

Office of THE PAPER TRADE JOURNAL,
Wednesday, October 12, 1927.

Business in the local chemical market continues to show signs of improvement. In addition to an expanding demand for the various paper makers' chemicals, the manufacturers are receiving an encouraging volume of inquiries for future requirements. Contract withdrawals are being maintained at a steady pace. Prices are holding up to schedule and reports of shading are infrequent.

BLANC FIXE.—The position of the blanc fixe market is sound. Demand for both the pulp and the powder is persistent. Prices are steady and unchanged. The pulp is quoted at $60 per ton, in bulk, while the powder is offered at from 4 cents to 4¼ cents a pound, in barrels, at works.

BLEACHING POWDER.—Conditions in the bleaching powder market are practically unchanged. Production is proceeding in ample volume to take care of the current demand. Contract shipments are moving at a normal rate. Bleaching powder is selling at from $2 to $2.40 per 100 pounds, in large drums, at works, according to quantity.

CASEIN.—Demand for casein is more active and the undertone of the market is somewhat firmer. Contract withdrawals are going forward in a satisfactory manner. Domestic casein is offered at from 17 cents to 18¼ cents a pound. Imported cassein is still selling at from 18 cents to 18¼ cents a pound, all in bags, car lot quantities.

CAUSTIC SODA—Steadiness continues to prevail in the caustic soda market. Demand for this product is excellent. Offerings at present are rather limited and prices are steady to firm. Solid caustic soda is quoted at from $3 to $3.10 per 100 pounds. The flake and the ground are selling at from $3.40 to $3.50 per 100 pounds, in large drums, at works.

CHINA CLAY.—Most of the business transacted in the china clay market during the past week was along routine lines. Supplies are moving into consumption at a normal pace. Prices are unaltered. English china clay is selling at from $15 to $25 a ton, ship side. Domestic paper makers' clay is quoted at from $8 to $9 a ton, in bulk, at mine, and pulverized at from $10 to $12 a ton.

CHLORINE.—The chlorine market is practically unchanged. This product is still in good request and the future outlook is decidedly promising. Chlorine is still quoted at 4 cents a pound, in tanks, or multi-unit cars, at works, on contract orders. The spot quotation ranges from 4¼ cents to 4½ cents a pound.

ROSIN.—Consumption of rosin has fallen off slightly and at present the demand is below normal. Prices have declined slightly. At the naval stores, the grades of gum rosin used in the paper mills are now selling at from $9.20 to $9.25 per 280 pounds gross, in barrels, ex dock. Wood rosin is still quoted at $9.50 per 280 pounds, southern shipping points.

SALT CAKE.—Trading in the salt cake market was quite active during the past week. There are said to be no undue accumulations of this product and prices remain steady to firm. Salt cake is still offered at from $18 to $19 a ton, in bulk, at works. Chrome salt cake is quoted at from $14 to $15 a ton, in bulk, at works.

SODA ASH.—Heavy contract shipments of soda ash are being made by the leading distributors and the market is exhibiting a strong tendency. Prices are holding up to schedule without difficulty. Contract quotations on soda ash, in car lots, at works, are as follows: in bulk, $1.20; in bags, $1.32½, and in barrels, $1.57½.

STARCH.—Leading refiners of starch are experiencing an excellent demand for this product. The market continues steady to firm, due to the recent advances in the price of raw materials. Special paper makers' starch is selling at $3.07 per 100 pounds, in bags, and at $3.24 per 100 pounds, in barrels, at works.

SULPHATE OF ALUMINA.—Contract withdrawals of sulphate of alumina are going forward in satisfactory volume. While stocks are reported to be adequate, offerings are being freely absorbed, and the market is in a sound position. Commercial grades of sulphate of alumina are quoted at from $1.40 to $1.45 per 100 pounds. The iron free is selling at from $2 to $2.05 per 100 pounds, in bags, at works.

SULPHUR.—Producers of sulphur report a heavy demand for this product. Contract shipments are being maintained in excellent volume. Prices are holding up to the basis which has prevailed for some considerable time. Sulphur is selling at from $18 to $19 a ton, in bulk, at mine, according to quantity. The spot quotation remains unaltered at $20 per ton.

TALC.—No radical changes have transpired in the talc market of late. Demand is about normal for the time of the year and supplies are moving into consumption at a satisfactory pace. Quotations on domestic talc range from $16 to $18 a ton, at eastern mines. French talc is still quoted at from $18 to $22 a ton, ship side.

Boston Paper Trade Happenings

[FROM OUR REGULAR CORRESPONDENT]

BOSTON, Mass., October 10, 1927.—A luncheon meeting of the Wraping Paper Division of the New England Paper Merchants Association was held at the Chamber of Commerce Thursday, with nineteen members present. They discussed conditions in the trade in New England outside of Boston, coming to the conclusion that the situation locally was more satisfactory than that in the outlying territory. M. O. Byrne, a vice-president of the New England Paper Merchants Association, presided.

A joint meeting of the salesmen of John Carter & Co., Inc., and of the A. Storrs & Bement Company, distributors of certified bond, will be held at the Chamber of Commerce early in November.

The Charles A. Esty Paper Company, 125 Pearl street, is introducing to the trade a new book paper made by Crane & Co., of Dalton, Mass. Although paper manufacturers for more than three generations, Crane & Co. have never made a book paper before and after two or three years' experimenting have brought out a sheet, "Crane's Olde Book." This sheet is made only in white, one finish, one size and weight, 25x38—100 M. The paper has attracted a great deal of attention in the trade. It is thought that it will be used considerably for de luxe editions and high class direct mail work.

The Esty Paper Company is distributing the Christmas Cut Books, showing cuts which are available for use on Linweave Papers at electro cost.

Col. Edgar Smalley, a director of E. Butterworth & Co., Inc., and an annual visitor to America, has succeeded the late William F. Dodge as managing director of Edwin Butterworth & Co., Ltd., of Manchester, Eng.

Col. B. A. Frankin, vice-president of the Strathmore Paper Company, Mittineague, Mass.; Lee H. Hulett, and W. B. Holmes, salesmen for the Chemical Manufacturing Company, Holyoke, Mass.; and W. R. Ingersoll, salesman for the Dill & Collins Company, Philadelphia, called on the trade last week.

Connecticut Valley Superintendents Meet

[FROM OUR REGULAR CORRESPONDENT]

HOLYOKE, Mass., October 9, 1927.—The annual business meeting of the Connecticut Valley Division of the American Pulp and Paper Mill Superintendents Association was held last night at the Hotel Nonotuck, about 40 attending. Charles E. Mooney of Lee, president of the Association, presided, and former president John J. White gave an entertaining account of a recent trip West and of trade conditions as he found them. These officers were elected: President, William B. Clements of Fitchburg; first vice president and chairman of the board of directors, Edward J. McDonnell of Holyoke; treasurer, Charles C. Tifft of Holyoke; board of governors, Thomas T. Rosser of Fitchburg, John J. White of Holyoke, Roger W. McCorkingdale of Holyoke, Joseph C. Bario of Holyoke, Edward Gibbons of Lee, W. L. Nixon of Holyoke, and Charles E. Mooney of Lee. It was voted to go on record in favor of holding the 1928 convention of the National Association at Pittsfield.

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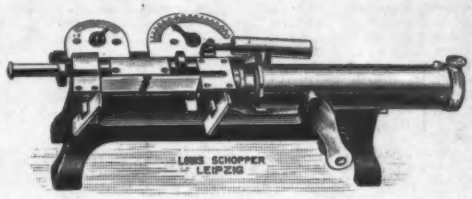

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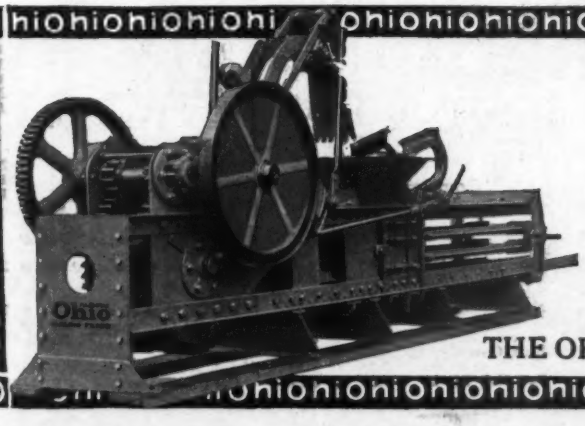

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Advance Bag & Paper, 7s 1943	105	107
A. P. W. Pulp & Power, 7s 1945	101	102
American Writing Paper, 6s 1947	79	82
Bastrap Pulp & Paper, 6½s 1940	100	103
British Columbia Pulp & Paper, 6s 1950	85	90*
Beaver Products Corp., 7½s 1942	106	109
Berkshire Hills Paper, 8s 1941	60	80
Brown Paper Co., 1st 5½s 1946	94	98
Bryant Paper Co., 6s 1942	100½	102
Cape Breton Pulp & Paper, 6s 1932	101	103
Central Paper Serial 6, 6½s 1942	89	...
Champion Coated Paper, 6s 1926 to 1932	99	...
Champion Fibre, 8s 1930	100	...
Champion Paper Corp'n, 1st 6s 1945	95	97
Continental Paper Products, 6½s 1943	88	91½
Cornell Wood Prod., 7½s 1937	100	104*
Crown Willamette Paper, 6s 1951	97	101
Donnaconna Paper, 6s 1940	101	102½
Dells Paper & Pulp Serial, 6s 1926-38	*95	...
Eastern Mfg. Co., 7s 1938	89	91
Eddy Paper, 7½s 1931	102	104
Escanaba Paper Serial, 6s 1926-39	94	96
Filer Fibre Serial, 7s 1926-39	95	...
Fort Orange Paper, 7s 1942	95	100*
Fox River Paper, 7s 1931	99	...
Gair Co. (The Robt.), 7s 1937	104	106
Gilbert Paper Co., 6½s 1926-29	89	...
Hammermill Paper, 6s 1939	100	103*
Hoberg Paper & Fibre, 7s 1937	94½	96
Itaska Paper & Prairie River Power, J+5½s 1926-38	94	96*
Itaska Paper, 1st 6s 1933-38	96	98*
Kalamazoo Veg. Parchment, 6s 1938	98	...
Marinette & Menominee, 7½s 1936	103½	105
Menasha Printing & Carton, 6½s 1939	99½	...
Mengel Company, 7s 1926 to 1934	103	...
Monroe Paper Products, 7½s 1932	96	...
Munising Paper, 6s 1927-36	96	100
Nekoosa Edwards, 1st Ref. 6s 1928 to 1942	96	99*
Orono Pulp & Paper, 6s 1943	98	...
Orono Pulp & Paper, 5s 1941	94	...
Oswego Falls Corp., 6s 1941	98	100*
Oxford Paper, 6s 1947	104	...
Paepcke Paper Mills, 7s 1930	99	None
Parsons Pulp & Lumber, 7s 1928	97	...
Parker Young Co., 6½s 1944	96½	98½
Paterson Parchment Paper, 6s 1938	100½	102
Penobscot Chemical Fibre, 6s 1942	98	...
Poland Paper, 7s 1930	98	...
Port Alfred Pulp, 6½s 1943	*96	...
Queens City Paper, 7s 1932	95	100*
Richardson Co., 6s 1938	100	...
Spanish River Pulp & Paper, 8s 1941	106	110
Stevens & Thompson Paper, 6s 1942	93	95
St. Anne Paper, 6½s 1946	95½	98*
St. Croix Paper, 5s 1926-37	95	98*
St. Regis Paper Serial, 6½s 1926-35	98½	...
Tait Paper & Color Industries, 6s 1934	90	95
Taggart Bros. Co., 6s 1944	94	97
Ticonderoga Pulp & Paper, 5s 1930	95	98
Ticonderoga Pulp & Paper, 6s 1940	99	101
Warren (The S. D.) Company, 6s 1945	99	101
Wotab Paper, 6½s 1943	102	...
Westfield River Paper, 7s 1926-43	Wanted	...
Whitaker Paper, 7s 1942	106	108
Witmer-Parsons Pulp & Lbr. (Units)	63	70

STOCKS	BID	ASKED
Advance Bag & Paper, 8% Pfd.	100	None
Am. Tissue Mills, 7% Pfd.	95	100
British Columbia P. & P., Pfd.	65	70
Brompton Pulp & Paper, 8% Pfd.	93	98*
Brown Corpn., 7% Pfd.	97	100*
Champion Fibre, 7% Pfd.	105	...
Diem & Wing, 7% Cum. Pfd.	87	...
Donnaconna Paper, Com.	58	...
Donnaconna Paper, Pfd.	99	None
Eastern Mfg. Co., 1st Pfd.	34	37
Great Northern Paper, Com.	72	75
Hammermill Paper, 7% Pfd.	105	110
Hinde & Dauch, Com.	135	...
Hinde & Dauch, Pfd.	100	...
Holyoke Card & Paper	150	None
Marathon Paper Mills, Com.	125	...
Midwest Box Co., Pfd. 8%	80	85
Midwest Box Co., Pfd. 6%	55	65
Louis De Jonge Co., 7% Pfd.	93	96
Oxford Papers, Com.	170	...
Oxford Paper Co., Pfd.	175	...
Penobscot Chemical Fibre, Com.	65	75*
Richardson Co., 7% Pfd.	104	...
Rubberoid Company	68	72
Seaman Container, Class B (par $1)	1	None Off.
Seaman Paper Co.	Wanted	None Off.
St. Croix Paper	150	170
St. Regis Paper Co., 7% Cum. Pfd.	101½	104½
Westfield River Paper Co., 1st Pfd.	Wanted	None Off.
West Virginia Pulp and Paper, Com.	52	57
West Virginia Pulp and Paper, Pfd.	101	103
Whittaker Paper, 7% Cum. Pfd.	97	103

* Nominal.

Paper

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Rolls, contract	3.25	@ —
Rolls, transient	3.25	@ 3.50
Sheets	3.65	@ 3.85
Side Runs	3.00	@ 3.75
Book, Cased—		
S. & S. C.	6.35	@ 7.75
M. F.	6.25	@ 7.75
Coated and Enamel	8.00	@15.00
Lithograph	8.00	@15.00
Tissues—Per Ream—		
White No. 1	.75	@ 1.00
Anti-Tarnish	1.10	@ 1.90
Colored	1.00	@ 2.00
White No. 2	.75	@ .85
Kraft	.90	@ 1.00
Manila	.75	@ .85
Kraft—		
No. 1 Domestic	6.25	@ 6.50
No. 2 Domestic	5.25	@ 5.50
Southern	4.75	@ 5.25
Imported	6.50	@ 7.00
Manila—		
No. 1 Jute	9.00	@ 9.25
No. 2 Jute	7.75	@ 8.50
No. 1 Wood	4.75	@ 5.25
No. 2 Wood	4.00	@ 4.50
Butchers	3.75	@ 4.25
Fibre Papers—		
No. 1 Fibre	5.00	@ 5.50
No. 2 Fibre	4.75	@ 5.25
Common Bogus	2.75	@ 3.00
Screenings	3.00	@ 3.25
Card Middles	4.00	@ 5.00
Glassine—		
Bleached, basis 25 lbs.	13.00	@16.00
Bleached, basis 20 lbs.	15.00	@16.00

(Delivered New York)

Boards—per ton—		
News	50.00	@52.50
Straw	53.50	@57.50
Chip	47.50	@50.00
Binders' Boards	70.00	@75.00
Sgl. Mla. Ll. Chip	57.50	@60.00
Wood Pulp	80.00	@85.00
Container	67.50	@72.50

Mechanical Pulp

(Ex-Dock)

No. 1 Imported—		
Moist	28.00	@30.00
Dry	32.00	@34.00

(F. o. b. Mill)

No. 1 Domestic	27.00	@30.00
Screenings	15.00	@20.00

Chemical Pulp

(Ex-Dock, Atlantic Ports)

Sulphite (Imported)—		
Bleached	3.40	@ 4.50
Easy Bleaching	2.75	@ 2.90
No. 1 strong unbleached	2.40	@ 2.75
Mitscherlich unBleached	2.55	@ 3.40
No. 2 strong unbleached	2.30	@ 2.40
No. 1 Kraft	2.65	@ 2.90
No. 2 Kraft	2.50	@ 2.60
Sulphate—		
Bleached	3.75	@ 4.00

(F. o. b. Pulp Mill)

Sulphite (Domestic)—		
Bleached	3.40	@ 4.75
Easy Bleaching Sulphite	2.70	@ 2.90
News Sulphite	2.40	@ 2.65
Mitscherlich	3.25	@ 3.70
Kraft (Domestic)	2.70	@ 3.40
Soda Bleached	3.25	@ 3.50
Sulphate Screenings—		
Coarse	.75	@ .85
Refined	1.50	@ 1.85

Domestic Rags

New Rags

(Prices to Mill f. o. b. N. Y.)

Shirt Cuttings—		
New White, No. 1	11.50	@12.00
New White, No. 2	8.00	@ 8.50
Silesias No. 1	7.25	@ 7.75
New Unbleached	10.25	@10.75
Washables	4.25	@ 4.75
Fancy	5.50	@ 6.00
Blue Overall	6.75	@ 7.25
New Blue Prints	5.25	@ 5.50
New Soft Blacks	5.25	@ 5.75
Mixed Khaki Cuttings	4.50	@ 5.25
Pink Corset Cuttings	8.00	@ 8.50
O. D. Khaki Cuttings	5.00	@ 5.50
Men's Corduroy	3.75	@ 4.25
New Mixed Blacks	3.50	@ 3.75

Old Rag

White, No. 1—		
Repacked	5.75	@ 6.50
Miscellaneous	4.75	@ 5.25
White, No. 2—		
Repacked	3.25	@ 3.75
Miscellaneous	2.75	@ 3.00
St. Soiled, White	2.50	@ 2.75
Thirds and Blues—		
Repacked	2.25	@ 2.50
Miscellaneous	1.75	@ 2.00
Black Stockings	3.25	@ 3.75
Roofing Rags—		
Cloth Strippings	1.60	@ 1.70
No. 1	1.60	@ 1.70
No. 2	1.35	@ 1.45
No. 3	1.25	@ 1.35
No. 4	1.25	@ 1.35
No. 5A	.95	@ 1.05

Foreign Rags

New Light Silesias	7.00	@ 7.50
Light Flannelettes	7.75	@ 8.50
Unbleached Cottons	10.00	@11.00
New White Cuttings	10.50	@11.50
New Light Oxfords	7.00	@ 7.50
New Light Prints	5.50	@ 6.50
New Mixed Cuttings	3.00	@ 3.50
New Dark Cuttings	2.75	@ 3.25
No. 1 White Linens	7.00	@ 7.75
No. 2 White Linens	5.25	@ 6.00
No. 3 White Linens	4.00	@ 4.50
No. 4 White Linens	3.00	@ 3.50
Old Extra Light Prints	2.75	@ 3.25
Ord. Light Prints	2.25	@ 2.50
Med. Light Prints	1.90	@ 2.10
Dutch Blue Cottons	2.25	@ 2.50
German Blue Linens	2.50	@ 2.75
German Blue Cottons	2.00	@ 2.25
Checks and Blues	1.75	@ 2.00
Lindsay Garments	1.70	@ 1.75
Dark Cottons	1.55	@ 1.60
Shoppery	1.50	@ 1.55
French Blues	2.25	@ 2.50

Old Rope and Bagging

(Prices to Mill f. o. b. N. Y.)

Gunny No. 1—		
Foreign	1.80	@ 1.90
Domestic	1.80	@ 1.90
Wool Tares, light	1.60	@ 1.70
Wool Tares, heavy	1.60	@ 1.70
Bright Bagging	1.60	@ 1.70
Small Mixed Rope	1.50	@ 1.65
Manila Rope—		
Foreign	3.25	@ 3.50
Domestic	4.25	@ 4.25
New Burlap Cut	3.00	@ 3.25
Hessian Jute Threads—		
Foreign	3.50	@ 4.00
Domestic	3.25	@ 3.50

Old Waste Papers

(F. o. b. New York)

Shavings—		
Hard, White, No. 1	3.40	@ 3.65
Hard, White, No. 2	2.90	@ 3.05
Soft, White, No. 1	2.90	@ 3.10
Flat Stock—		
Stitchless	1.30	@ 1.35
Overissue Mag.	1.30	@ 1.35
Solid Flat Book	1.25	@ 1.30
Crumpled No. 1	.90	@ 1.00
Solid Book Ledger	1.90	@ 2.10
Ledger Stock	1.60	@ 1.70
New B. B. Chips	.65	@ .75
Manilas—		
New Env. Cut	2.40	@ 2.60
New Cuttings	1.60	@ 1.85
Extra No. 1 old	1.25	@ 1.35
Print	.85	@ .95
Container	.70	@ .80
Bogus Wrapper	.75	@ .85
Old Kraft Machine Compressed bales	2.10	@ 2.20
News—		
No. 1 White News	1.75	@ 1.80
Strictly Overissue	.85	@ .90
Strictly Folded	.70	@ .75
No. 1 Mixed Paper	.57½	@ .62½
Common paper	.35	@ .45

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Twines

(F. o. b. Mill)

Cotton—			
No. 1	.39	@	.40
No. 2	.37	@	.38
No. 3	.36	@	.37
B. C., 18 basis	.38	@	.40
A. B. Italian, 18 basis	.48	@	.53
Finished Jute—			
Dark 18 basis	.24	@	.25
Light 18 basis	.27	@	.28
Jute Wrapping, 3-6 Ply—			
No. 1	.21	@	.23
No. 2	.20	@	.22
Tube Rope—			
4-ply and larger	.18	@	.19
Fine Tube Yarn—			
5-ply and larger	.23	@	.27
4-ply	.24	@	.28
3-ply	.26	@	.30
Unfinished India—			
Basis	.16	@	.17
Paper Makers Twine			
Balls	.13	@	.15
Box Twine, 2-3 ply	.17	@	.19
Jute Rope	.21	@	.23
Ameri. Hemp, 6	.29	@	.31
Sisal Hay Rope—			
No. 1 Basis	.18	@	.20
No. 2 Basis	.16	@	.18
Sisal Lath Yarn—			
No. 1	.16	@	.18
No. 2	.14	@	.16
Manila Rope	.24	@	.26

CHICAGO

All Rag Bond	.35	@	.41
No. 1 Rag Bond	.25	@	.35
No. 2 Rag Bond	.14	@	.25
Water Marked Sulphite Bond	.09	@	.12
Sulphite Bond	.06¾	@	.11
Superfine writing	.18	@	.24
No. 1 fine writing	.14	@	.18
No. 2 fine writing	.12	@	.14
No. 3 fine writing	.08½	@	.12
No. 1 M. F. Book	.06½	@	.07¾
No. 2 M. F. Book	.05¼	@	.06¼
No. 1 S.&S.C. Book	.06¾	@	.07¾
No. 2 S.&S.C. Book	.05¾	@	.06½
Coated Book	.07½	@	.12
Coated Label	.07½	@	.10
News—Roll, mill	.03½	@	.04¼
News—Sheets, mill	.03¾	@	.04¾
No. 1 Manila	.04¼	@	.05¾
No. 1 Fibre	.04¾	@	.05¾
No. 2 Manila	.04¼	@	.04¾
Butcher's Manila	.04	@	.04½
No. 1 Kraft	.05¾	@	.06¼
Southern Kraft	.04½	@	.05
No. 2 Kraft	.05	@	.05¼
Wood Tag Boards	.04¾	@	.06¼
Sulphite Screenings	.03	@	.03¼
Manila Tissue—24x36 Sheet	.07	@	.07¾
White Tissue—20x30 Sheet	.07¼	@	.07½
Boards, per ton—(Delivered Central Territory)			
Plain Chip	45.00	@	—
Solid News	47.50	@	—
Manila Lined Chip	55.00	@	—
Container Lined—(Delivered Central Territory)			
85 Test	65.00	@	70.00
100 Test	70.00	@	—

Old Papers

(F. o. b. Chicago)

Shavings—			
No. 1 Hard White	2.80	@	2.90
White Env. Cuttings	3.60	@	3.70
No. 1 Soft Shavings	2.30	@	2.40
No. 1 Mixed	1.10	@	1.15
No. 2 Mixed	1.05	@	1.10
Ledger & Writings	1.55	@	1.65
Solid Books	1.20	@	1.30
Blanks	1.30	@	1.40
Krafts	1.90	@	2.05
New Kraft Cuts	2.25	@	2.35
Manila Envelope Cuttings	2.00	@	2.10
Ex. No. 1 Manila	1.55	@	1.65
Print Manila	.90	@	1.00
Folded News (overissue)	.55	@	.65
Old Newspapers—			
No. 1	.65	@	.75
No. 2	.55	@	.60
Mixed Papers—			
No. 1	.50	@	.60
Roofing Stocks— (F. o. b. Chicago, net cash)			
No. 1	30.00	@	—
No. 2	28.00	@	—

PHILADELPHIA

Paper

(F. o. b. Mill)

Bonds	.07	@	.40
Ledgers	.11	@	.40
Writings—			
Superfine	.13	@	.18
Extra fine	—	@	.22
Fine	.20	@	.26½
Fine, No. 2	.16	@	.25
Fine, No. 3	.12	@	.20
Book, M. F.	.06¾	@	.07
Book, S. S. & C.	.06	@	.07½
Book, Coated	.11	@	.16
Coated Lithograph	.09	@	.12
Label	.09	@	.12
News	.03¾	@	.04
No. 1 Jute Manila	.09½	@	—
Manila Sul., No. 1	.04½	@	.06
Manila, No. 2	.04	@	.04½
No. 2 Kraft	.05	@	.05¼
No. 1 Kraft	.06	@	.06¼
Common Bogus	.02¼	@	—
Straw Board	60.00	@	65.00
News Board	45.00	@	50.00
Chip Board	40.00	@	42.00
Wood Pulp Board (Carload Lots)	4.50	@	5.00
Binder Boards—			
No. 1, per ton	85.00	@	90.00
No. 2, per ton	70.00	@	75.00
Carload lots	60.00	@	65.00
Tarred Felts—			
Regular	66.00	@	68.00
Slaters	70.00	@	72.00
Best Tarred, 1-ply (per roll)	1.85	@	1.95
Best Tarred, 2-ply (per roll)	1.55	@	1.70
Best Tarred, 3-ply	2.10	@	2.15
No. 1 Mixed Paper	.65	@	.70

Domestic Rags (New)

(Price to Mill, f. o. b. Phila.)

Shirt Cuttings—			
New White, No. 1	.11½	@	.12
New White, No. 2	.07	@	.07½
Light Silesias	.07	@	.07½
Silesias, No. 1	.07½	@	.08
Black Silesia, soft	.05	@	.05½
New Unbleached	.10½	@	.11
Washable	.04	@	.04½
Fancy	.05½	@	.06
Cottons—according to grades—			
Blue Overall	.07½	@	.08
New Blue	.03½	@	.04
New Black Soft	.05½	@	.06
New Light Seconds	.03	@	.03½
Khaki Cuttings	.04¼	@	.05
Corduroy	.03	@	.03¾
New Canvas	.08	@	.09
New Black Mixed	.05	@	.05½

Bagging

(F. o. b. Phila.)

Gunny, No. 1—Foreign	2.00	@	2.25
Domestic	1.75	@	2.00
Manila Rope	3.50	@	4.00
Sisal Rope	1.25	@	2.00
Mixed Rope	1.10	@	1.25
Scrap Burlaps	1.50	@	1.65
Wool Tares, heavy	3.00	@	3.50
Mixed Strings	1.25	@	1.35
No. 1, New Light Burlap	2.25	@	2.50
New Burlap Cuttings	2.25	@	2.50

Old Papers

(F. o. b. Phila.)

Shavings—			
No. 1 Hard White	3.50	@	3.60
No. 2 Hard White	3.00	@	3.25
No. 1 Soft White	2.75	@	3.00
No. 2 Soft White	1.90	@	2.00
No. 1 Mixed	1.50	@	1.60
No. 2 Mixed	.90	@	1.00
Solid Ledger Stock	1.90	@	2.00
Writing Paper	1.65	@	1.75
No. 1 Books, heavy	1.25	@	1.30
No. 2 Books, light	.85	@	.90
No. 1 New Manila	2.40	@	2.50
No. 1 Old Manila	1.50	@	1.60
Print Manila	1.15	@	1.20
Container Manila	.90	@	1.00
Old Kraft	2.00	@	2.20
Common Paper	.50	@	.60
No. 1 Mixed Paper	.60	@	.75
Straw Board, Chip	.65	@	.70
Binders Board, Chip	.65	@	.70
Overissue News	.80	@	.90
Old Newspaper	.60	@	.65

Domestic Rags (Old)

White, No. 1—Repacked	4.50	@	5.25
Miscellaneous	3.50	@	4.00
White, No. 2—Repacked	.02½	@	.03
Miscellaneous	.02	@	.02¼
Thirds and Blues—Repacked	2.50	@	2.75
Miscellaneous	1.50	@	1.75
Black Stockings	3.25	@	3.50
Roofing Stock—			
No. 1	1.50	@	1.60
No. 2	1.37½	@	—
No. 3	1.25	@	1.35
No. 4	1.10	@	1.20
No. 5A	.90	@	1.00
B	.80	@	.90
C	.80	@	.90

BOSTON

Paper

(F. o. b. Mill)

Ledgers—			
Sulphite	.07½	@	.15
Rag content	.15	@	.30
All rag	.38	@	.52½
Bonds—			
Sulphite	.06¾	@	.11½
Rag content	.15	@	.30
All rag	.36½	@	.65
Writings	.07	@	.20
Superfines	.11	@	.31
News	.03½	@	.04
Book, Super	.06	@	.09
Book, M. F.	.05¾	@	.08½
Book, Coated	.08½	@	.20
Coated Litho	.09	@	.12
Label	.09½	@	.15
Jute Manila No. 1	.11	@	.13
Manila, Sul. No. 1	.04¾	@	.06½
Manila, Sul. No. 2	.03¾	@	.04½
No. 1 Kraft	.05¾	@	.06½
No. 2 Kraft	.04¾	@	.05¾
Common Bogus	.02	@	.02½
Straw Board, rolls .009	Delivered New England points		57.50
Straw Board in Sheets, basis 35s to 70s			53.50
Filled News Board			50.00
Chip Board			47.50
Single Manila Pulp lined board		57.50	@62.50
Single White, patent coated board bender		75.00	@82.50
Wood Pulp Board		80.00	@85.00
Binder Boards		70.00	@75.00

(F. o. b. Mill)

Tarred Felts—			
Regular, carload lots	65.00	@	—

Old Papers

(F. o. b. Boston)

Shavings—			
No. 1 Hard White	2.75	@	3.10
No. 2 Hard White	2.60	@	2.90
No. 1 Soft White	2.60	@	2.85
No. 1 Mixed	1.10	@	1.15
No. 2 Mixed	.85	@	.90
Solid Ledger Stock	1.95	@	2.00
No. 1 Books, Heavy	1.35	@	1.45
No. 1 Books, Light	—	@	1.15
Manila Env. Cuttings	2.00	@	2.25
No. 1 Old Manila	1.40	@	1.60
White Blank News	1.75	@	—
Old Kraft	2.00	@	2.20
Print Manila	.70	@	.80
No. 1 Mixed Paper	.55	@	.62½
Overissue News	.70	@	.80
Old Newspapers	.65	@	—
Box Board, Chip	.65	@	—

Bagging

(Price f. o. b. Boston)

Gunny No. 1—Foreign	1.75	@	2.00
Domestic	1.75	@	2.00
Manila Rope and Strings—Foreign	3.75	@	—
Domestic	4.00	@	4.12½
Mixed Strings	.90	@	1.00
Scrap Burlaps	1.65	@	—
Wool Tares, heavy	1.75	@	—
New Burlap Cutting	2.25	@	2.37½

Domestic Rags (New)

(Price f. o. b. Boston)

Shirt Cuttings—			
New White No. 1	.12½	@	—
Silesias, No. 1	.07	@	.07½
New Unbleached	.10	@	.10½
Fancy	.05¾	@	.06
Washable	.04½	@	—
Cottons—Acording to Grades—Blue—			
Blue Overalls	.05	@	.05½
New Black, soft	.04	@	.04¼
Khaki Cuttings	.04½	@	.05
Corduroy	.03	@	.03½
New Canvas	.08	@	.09

Domestic Rags (Old)

(Price f. o. b. Boston)

Canvas	.04½	@	—
White No. 1—			
Repacked	5.00	@	5.25
Miscellaneous	5.00	@	—
White No. 2—			
Repacked	.04½	@	.05
Miscellaneous	.03½	@	.04
Thirds and Blues—			
Repacked	2.00	@	2.12½
Miscellaneous	1.75	@	1.90
Roofing Stock—			
No. 1	1.65	@	1.75
No. 2	1.50	@	1.62½
No. 3	1.00	@	—
No. 4	1.00	@	1.10

Foreign Rags

(F. o. b. Boston)

Dark Cottons	1.60	@	1.65
New No. 1 Shirt Cuttings	.11	@	.11½
Dutch Blues	.02	@	—
Lace Curtains	.05½	@	—
New Checks & Blues	.04½	@	—
Old Fustians	1.80	@	—

TORONTO

Paper

(F. o. b. Mill)

Bond—			
No. 1 Sulphite	.12½	@	—
No. 2 Sulphite	.10¾	@	—
No. 1 Colored	.13½	@	—
No. 2 Colored	.11¼	@	—
Ledgers (sulphite)	—	@	—
Ledgers, No. 1	.36	@	—
Ledgers, No. 2	.27	@	—
Writing	.09½	@	.10
News f. o. b. Mills—			
Rolls (carloads)	3.25	@	—
Sheets (carloads)	3.75	@	—
Sheets (2 tons or over)	4.00	@	—
Book—			
No. 1 M. F. (carloads)	7.75	@	—
No. 2 M. F. (carloads)	7.50	@	—
No. 3 M. F. (carloads)	7.25	@	—
No. 1 S. C. (carloads)	8.25	@	—
No. 2 S. C. (carloads)	8.00	@	—
No. 3 S. C. (carloads)	7.75	@	—
No. 1 Coated and Litho	14.50	@	—
No. 2 Coated and Litho	13.50	@	—
No. 3 Coated and Litho	12.75	@	—
Coated tinted	.15	@	—
Wrapping—			
Rag Brown	4.85	@	—
White Rag	5.25	@	—
"B" Manila	5.65	@	—
No. 1 Manila	6.65	@	—
Fiber	6.65	@	—
Kraft, M. F.	7.20	@	—
M. G.	7.35	@	—

Pulp

(F. o. b. Mill)

Ground wood	25.00	@	27.00
Sulphite easy bleaching	58.00	@	60.00
Sulphite news grade	55.00	@	58.00
Sulphite, bleached	75.00	@	80.00
Sulphate			65.00

Old Waste Paper

(In carload lots, f. o. b. Toronto)

Shavings—			
White Env. Cut	3.00	@	—
Soft White Book Shavings	3.00	@	—
White Blk, News	1.50	@	—
Book and Ledger—			
Flat Magazine and Book Stock (old)	1.25	@	—
Light and Crumpled Book Stock	1.10	@	—
Ledgers and Writings	1.40	@	—
Solid Ledgers	1.40	@	—
Manilas—			
New Manila Cut	1.50	@	—
Printed Manilas	1.00	@	—
Kraft	2.25	@	—
News and Scrap—			
Strictly Overissue	.80	@	—
Strictly Folded	.47½	@	.52½
No. 1 Mixed Paper	.60	@	—

Domestic Rags

(Price to mills, f. o. b. Toronto)

No. 1 White Shirt Cuttings	.12	@	.12½
Fancy Shirt Cuttings	.06	@	.06¼

82 YEARS EXPERIENCE

In Making

Felts for Paper Manufacturers certainly recommends our ability to satisfactorily serve your requirements

OUR **TRIUNE** AND
MULTIPLE PLY
DRYER FELTS

English Weave—Fine Face Felt in Three, Four, Five and Six Ply—60" to 214" in width—insure large production. Absolutely no felt marks in paper.

FITCHBURG DUCK MILLS
Established 1844
FITCHBURG, MASS.

Maintains your high standards -yet reduces your costs

ALPHA FIBRE

for the making of fine paper

Alpha takes the place of many grades of rags in paper making. It is clean, more economical and can be used without sacrifice of quality.

Also, papers hitherto made without rag stock, can be brought to the high quality goal, by adding Alpha to the furnish in suitable proportions.

WRITE FOR PARTICULARS

BROWN COMPANY
founded 1852
PORTLAND, MAINE

Control Temperature Humidity better, with
U S Gypsum Roof Constructions
Write for details
UNITED STATES GYPSUM COMPANY
Fireproofing Dept. E,
300 W. Adams Street, Chicago, Ill.

PUMPS
For Every
Pulp and Paper Mill Purpose
Let Us Help Solve Your Problems
LAWRENCE MACHINE CO., Lawrence, Mass.

GENERAL **Aluminum Sulphate** CHEMICAL
GENERAL CHEMICAL COMPANY 40 RECTOR STREET, NEW YORK

PAPER TESTS
In Accordance with T. A. P. P. I. Standard Methods
Oils — Paper — Water — Microphotograph
Electrical, Mechanical, Physical, Chemical and Photometric Tests
ELECTRICAL TESTING LABORATORIES
80th St. & East End Ave., New York

WE WILL BUY

American Writing Paper 6s, 1939	@ 80
Craig Mountain Lumber 6s, 1929-39	@ ow
Donnacona Paper 6s, 1940	@101¼
Fort William Paper 6s, 1946	@ 98
Hoberg Paper & Fibre 7s, 1937	@ 94½
Kalamazoo Vegetable Parchment 6s, 1938	@ 99¼
Mead Pulp & Paper 5s, 1928	@ 99¾
Missisquoi Pulp & Paper 7s, 1929	@ 97
River Raisin Paper Co. 6s, 1936	@ 98¼
Sauquoit Paper Co. 6½s, 1938	@ 95
Tait Paper & Color Industries 6s, 1934	@ 90
West Virginia Pulp & Paper Common	@ 49½
Westfield River Paper 7s	@ 89¾

WE WILL SELL

Chicago Mill & Lumber Pfd.	@ 72
Chillicothe Paper Co. Pfd.	@105
Donnacona Paper Co. Common	@ 75
Eastern Mfg. Co. 7s, 1938	@ 92
Great Northern Paper Co.	@ 73
Parker Young 6½s, 1944	@ 99

H. D. KNOX & CO.
44 Broad St., N. Y. 27 State St., Boston
Inquiries invited on all Paper Pulp Lumber Securities

Fourdrinier Wires, all widths up to 300 inches

DIMOND WIRES

NEUMEYER & DIMOND
Established 1904
82-92 Beaver St. New York

Long Distance Phones
Harrison 2840-41-5557

MENDELSON BROS.
Paper Stock Co.
Paper Manufacturers' Supplies
910 So. Michigan Ave. Chicago, Ill.

TANKS
Blow Pits, Acid Storage Tanks, Vats, Etc.
Send us your specifications for prompt shipment
Kalamazoo Tank & Silo Co., Kalamazoo, Michigan

HAYTON PUMP and BLOWER CO.
APPLETON, WIS.
Centrifugal and Triplex Pumps
For All Purposes
Designing Pumps to Fit All Conditions Our Specialty

Perforated Metal Screens
for every purpose
Elevator Buckets (plain or perforated) "Mitco" Interlocked Steel Grating—Light and Heavy Steel plate Construction
Stocks and Tanks
HENDRICK MFG. CO., Carbondale, Pa.
New York Office 30 Church St. Pittsburgh Office: 904 Union Trust Bldg. Hazleton, Pa., Office: 738 W. Diamond Ave.

Finest Facilities in Central Territory
We manufacture all grades of Quality Box Board, specializing particularly in Patent Coated Boards. With a capacity of 125 tons daily, we meet the largest requirements promptly. Inquiries are invited.
STANDARD PAPER COMPANY
KALAMAZOO MICHIGAN

Don't Guess at Important Matters
BOWSHER'S SPEED or MOTION
INDICATOR is indispensable
in obtaining a UNIFORM speed of machinery, and is one of the most PROFITABLE little devices ever put in a mill. Will pay for itself in 30 days. Dial 12 in. in diameter. Weight, 10 lbs.
The N. P. BOWSHER CO., South Bend, Ind.

FOURDRINIER CYLINDER, WASHER WIRE
FOR SERVICE
GREEN BAY WIRE WORKS
GREEN BAY, WISC.

Salomon Bros. & Co.
IMPORTERS OF
All Grades of Rag and Paper Stock
200 FIFTH AVENUE, NEW YORK
COTTON WASTE :: LINTERS :: RAMIE

Ruths Accumulator Company, Inc.
292 Madison Av., New York City

Appleton Wires
are good wires
APPLETON WIRE WORKS INC., APPLETON, WIS.

"THE FOURDRINIER THAT TOOK THE IRE OUT OF WIRE"
INTERNATIONAL WIRE WORKS
Menasha, Wisconsin

GATTI PAPER STOCK CORPORATION
41 East 42nd St., New York
Paper and Woolen Mfrs.' Supplies
COTTON AND WOOLEN WASTE
Warehouse—Hoboken, N. J. Branch office—Holyoke, Mass.

A. J. BRADLEY MFG. COMPANY
Oiled Stencil Board
Lamp Shade Parchment
IN A VARIETY OF GRADES AND COLORS
101 BEEKMAN STREET NEW YORK

The CLEARING HOUSE of The Paper Industry

PAPER TRADE JOURNAL
10 East 39th Street New York, N. Y.
Telephone Caledonia 0560

"SITUATION WANTED" ADVERTISEMENTS—4c a word, double rates for heavy face type. Minimum charge $1.00. If repeated ½ rate will be charged for each consecutive repetition.

"HELP WANTED" ADVERTISEMENTS—4c a word, double rates for heavy face type. Minimum charge $1.00.

CLASSIFIED ADVERTISEMENTS—4c a word, double rate for heavy face type. Minimum charge $1.00.
All classified, "Help Wanted" and "Situation Wanted" advertisements are payable in advance.

HELP WANTED

PRODUCTION MANAGER—For waxed paper plant. Must understand all phases and be able to plan production from beginning to end. Permanent well-paying position for man who qualifies. State age, references. Confidential. Address, Box 27-576, care Paper Trade Journal. O-13

CAMERON REWINDER FOREMAN—For waxed paper plant in Middle West. Must be perfect operator and understand all operations thoroughly; capable of handling men. In reply state age, references. Confidential. Address, Box 27-575, care Paper Trade Journal. O-13

IF YOU are open to overtures for new connection, and qualified for a salary between $2,500 and $25,000, your response to this announcement is invited. The undersigned provides a thoroughly organized service, of recognized standing and reputation, through which preliminaries are negotiated confidentially for positions of the calibre indicated. The procedure is individualized to each client's personal requirements; your identity covered and present position protected. Established seventeen years. Send only name and address for details. R. W. Bixby, Inc., 117 Downtown Building, Buffalo, New York. tf.

WANTED—Superintendent for crepe paper plant in East. Reply, giving experience and reference in first letter. Address, Box 27-547, care Paper Trade Journal. O-13

WANTED—An experienced adjuster on a Lockport machine, both flat and square; also on a Potdevin S O S. State experience and salary expected. Steady position for the right man. All communications will be held strictly confidential. Address, Box 27-502, care Paper Trade Journal. tf.

WANTED—Sober, steady machine tender for container mill. Give age, experience, references. Two tours. Address, Box 27-609, care Paper Trade Journal. O-20

WAX PAPER SALESMAN, THOROUGHLY CONVERSANT WITH TRADE IN EASTERN STATES AND FAMILIAR WITH ITS MANUFACTURE. STATE SALARY AND REFERENCES. ADDRESS, BOX 27-611, CARE PAPER TRADE JOURNAL. O-13

WANTED—Boss finisher. Must be experienced on board specialties and ream paper. Address, Box 27-634, care Paper Trade Journal. O-13

WANTED—Finishers experienced on tying on end of board machine. Address, Box 27-635, care Paper Trade Journal. O-13

WANTED—Men to operate Cameron Rewinder on **Waxed Paper**—must be fully acquainted with machine. No one need apply under thirty years and without experience. Sixty hour week—wages 80c per hour and over. Address, Box 27-614, care Paper Trade Journal. O-20

HELP WANTED

WANTED—Beater engineer in book mill. Must be good on colors; all day work. State experience. Apply Holden Paper Company, Newburgh, N. Y. O-20

$3,000.00-$30,000.00 men find our Service effective in making connections. Individual. Confidential. Personally planned by JACOB PENN. All mill owners know him, believe in him. Not agency. Jacob Penn, Incorporated, 9 Park Place, New York. tf.

WANTED—First-class machine tender on high grade bonds and ledgers, machine and loft dried. Excellent living conditions. Steady work. Address, Box 27-613, care Paper Trade Journal. O-13

SITUATIONS WANTED

RAG AND OLD PAPER plant foreman open for position. Many years experience on all grades. References. Address, Box 27-606, care Paper Trade Journal. O-13

MILLWRIGHT—Also beater and jordan filler. Have had ten years experience. Married and steady work. A-1 reference. Address, Box 27-615, care Paper Trade Journal. O-13

SUPERINTENDENT wants a change. Used to board, kraft, wrapping, express, rope, bag. Good on repairs around the mill. Can furnish good recommendation. Address, Box 27-616, care Paper Trade Journal. O-13

CHIEF ENGINEER—Paper mill experience; expert in combustion and steam plant economy. Electrical engineer, good technical education, at present employed, available on reasonable notice. Address, Box 27-617, care Paper Trade Journal. O-13

SUPERINTENDENT—Experienced on all grades of board, test container, chip, wall board, pie plate, bottle cap, etc. Desires new connection with high grade mill. Handles help successfully, A-1 on repairs, is a real papermaker, with highest credentials and A-1 production record. Address, Box 27-618, care Paper Trade Journal. N-3

JOB—Board or paper specialty superintendent, tour or night boss. Communicate and will convince you of my ability to get results. Record will stand investigation. Address, Box 27-620, care Paper Trade Journal. O-27

SEASONED PAPER MAN, capable of managing, buying or selling, desires position with mill or wholesale house of good standing. Address, Box 27-621, care Paper Trade Journal. O-13

DO YOU WANT a papermaker in your mill? I know how to get results—news, chip, dry felt, asbestos. 33 years old. Address, Box 27-630, care Paper Trade Journal. O-20

FOURDRINIER MACHINE TENDER wishes to make a change. Well up on sulphite stock. References. Address, Box 27-619, care Paper Trade Journal. O-13

SITUATIONS WANTED

ENGINEER—Technically trained, broad experience in pulp, paper mill design. Well versed in construction, plant operation, maintenance, production, machinery design and its construction. Capable of assuming full responsibility from drawing board to erected job. Thoroughly seasoned, planning, routing, and layout work. Address, Box 27-588, care Paper Trade Journal. O-13

POSITION WANTED by a thoroughly experienced paper bag maker, on self-opening, square and flat, and glassine bag machines, with or without printing. Address, Box 27-571, care Paper Trade Journal. O-13

MILL OR PRODUCTION MANAGER—Now superintendent of a well known mill, but want to make a change. A splendid business and paper making experience with an excellent production record. Well educated. Address, Box 27-501, care Paper Trade Journal. O-27

SUPERINTENDENT—Trained in the manufacture of box board specialties, tag and coating mill boards, can guarantee quality, production, efficiency, and good organizer. Address, Box 27-593, care Paper Trade Journal. tf.

SALESMAN—Executive, forty-five, Christian, excellent education, twenty-five years experience in fine papers, ten years as sales-manager, would like good mill connection. No objection to traveling, wide acquaintance in trade, unexceptional business and personal references. Address, Box 27-595, care Paper Trade Journal. O-13

PULP AND PAPER MILL ENGINEER, with many years experience in design, construction and maintenance, desires position. References. Address, Box 27-470, care Paper Trade Journal. tf.

MILL CONNECTION WANTED—Capable experienced salesman desires mill connection. Years of experience in the sales of both coarse and fine paper. Willing to travel. Highest credentials as to ability and integrity. Address, Box 27-490, care Paper Trade Journal. tf.

POSITION WANTED as paper mill manager or production engineer. Extensive experience on rag and wood pulp papers. Services available at once. Can furnish best of references. Address, Box 27-503, care Paper Trade Journal. tf.

PAPER MILL SUPERINTENDENT wants change. Experienced on all grades of combination board and test. Good on colors and knows how to handle help and get quality and quantity. Best of references. Address, Box 27-602, care Paper Trade Journal. O-13

SALES PROMOTION POST sought by a man thirty-five years of age, seventeen years in paper business; has general executive experience and special aptitude for selling; either personal or management. Unimpeachable character. Enduring connection desired where initiative and enthusiasm can find outlet. Special aim to locate opening where financial participation can ultimately result. Address, Box 27-591, care Paper Trade Journal. O-20

Money Saved *is* Money Earned!

1 YR 2 YRS 2½ YRS

1 YR SHARTLE JORDANS LAST 2½ TIMES AS LONG AS OTHERS

Geo. W. Wheelwright Paper Co.
Streator, Mass

Shartle Bros. Machine Co.
Middletown, Ohio.

July 26, 1927

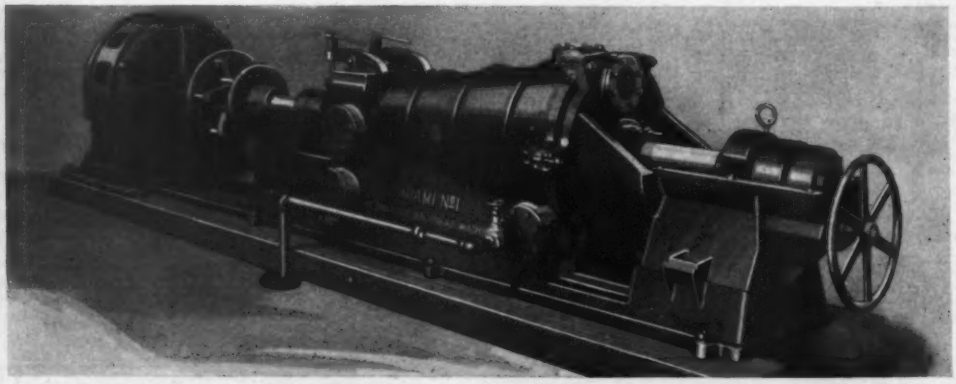
Gentlemen:

Attention Mr. Tom Montville

Jordan bronze filled. We installed on our #2 machine in December 1924 a Miami #1 Shartle working on hard stock a large percentage of the time on 30% rag content. From the good service of this jordan we installed two more on our #1 Machine. They are also giving good satisfaction under similar conditions. On our old Jordan we got about a year of service, on the Shartle we get two and one half years service on bronze fillings. We previously used before installing the Shartle jordans five gallons of oil each day, our five gallons can now lasts one week which we consider a vast saving in money and cleanliness.

Yours truly
GEO. W. WHEELWRIGHT PAPER CO.
Supt. M. J. Baker

Figure these savings for yourself. You can do it in very few minutes. Then write us for complete data on the one and only make of jordans that can effect such savings—SHARTLE-MIAMI.



SHARTLE BROTHERS

DIVISION OF THE BLACK-CLAWSON COMPANY

Paper Mill Machinery

SITUATIONS WANTED

CREDIT MANAGER-BOOKKEEPER: Young man, seven years experience with large paper concern, desires new connection with opportunity for advancement. Address, Box 27-532, care Paper Trade Journal. O-20

FELT SUPERINTENDENT—Ten years with representative mill making dry felt and flooring. Desires change. Capable of getting production and quality. Best references. Address, Box 27-523, care Paper Trade Journal. tf.

ASSISTANT SUPERINTENDENT — College graduate, chemist, nine years practical experience and research in rag fine writing papermaking and specialties, desires position with opportunity for advancement. Address, Box 27-320, care Paper Trade Journal. tf.

SUPERINTENDENT—Trained in the manufacture of tissues, all grades, plain and creped; high grade Kraft papers, converting specialties, crepes, waxing, crepe towels, and Kraft, waxed Kraft. Address, Box 27-563, care Paper Trade Journal. O-13

FACTORY MANAGER or assistant in paper bag and specialty factory. Experienced in every branch of the business. Address, Box 27-631, care Paper Trade Journal. N-3

MACHINE TENDER with fifteen years experience on bond, envelope and manila papers desires to make a change. State wages in first letter. Married. Address, Box 27-610, care Paper Trade Journal. O-13

WHO WANTS A FIRST-CLASS BOSS BEATERMAN AND COLORMAN, experienced on rag and sulphite papers, bag papers, fibers and boards? Well recommended. Write or wire. Joseph Sergeant, 331 Pine Street, Reading, Penna. O-20

PULP AND PAPER MILL SUPERINTENDENT—Wants similar position in sulphite or Kraft pulp and paper mill. 40 years old, 18 years practical experience. Graduate chemical engineer. Has done research work on cooking of sulphite and Kraft pulp, bleaching, beating and soda recovery. Also mill construction. At present in charge of production in a Kraft pulp and paper mill. Address, Box 27-566, care Paper Trade Journal. O-27

POSITION AS MASTER MECHANIC—20 years experience handling men and upkeep; repairs, new work and erecting. Best of reference. Address, Box 27-585, care Paper Trade Journal. O-13

SUPERINTENDENT—Open for position October 1st. Book, bond, writing, waxing, hanging, board and other grades. Can handle help and get results. Go anywhere. Address, Box 27-586, care Paper Trade Journal. N-10

BOSS BEATERMAN OR BEATER ENGINEER—Experienced on most all grades. 37 years of age. Good on colors. Steady. Address, Box 27-590, care Paper Trade Journal. O-13

WANTED—Position as assistant superintendent, night or tour boss. Would consider running machine with opportunity for advancement. Age 40, married. Familiar with all types of machines. A-1 reference. Address, Box 27-603, care Paper Trade Journal. O-20

MISCELLANEOUS

CLARK MANUFACTURING COMPANY, Holyoke, Mass. Telephone 1828. Builders of cylinder moulds, couch and felt rolls, dandy rolls. We cover dandies and cylinders tight, for fast running machines. 3-5-27

WANTED—Mill ends and job lots in rolls or flats in any quantity, all grades. Also boards. Joseph Goldstein & Sons, 1302-9 N. Halsted Street, Chicago, Illinois. tf.

WANTED—Side or odd lot rolls ten to ninety pound basis. The larger the quantity the better we like it. Address, Box 27-481, care Paper Trade Journal. tf.

SEND YOUR ODD LOT LIST of coarse and fine papers together with samples to Goldman Paper & Paper Stock Co., 414 So. Front Street, Philadelphia, Pa. tf.

ACCOUNTANT—Books opened, closed, audited. Bookkeeping services for firms without bookkeeper. Tax Reports. Emil Mack, 507 Fifth Ave., New York City. Murray Hill 5021. O-13

MISCELLANEOUS

WANTED TO BUY—Special Lots, or overruns—all grades of paper. Lutz Paper Co., 17 E. 42nd Street, New York City e.o.w.12/31/27

TREASURER AND DIRECTOR WANTED for modern paper mill, adjacent to New York and Philadelphia, showing substantial profits. Plenty of orders ahead; excellent, established selling connections. Investment, $50,000.00 required for additional working capital—not for machinery. Good salary for capable active man. Correspondence confidential. Address, Box 27-600, care Paper Trade Journal. O-13

WANTED—To know the whereabouts of William Jones, better known as Billy. Address, Box 27-612, care Paper Trade Journal. N-3

WANTED

WANTED—Second hand Slitter approximately eighty inches wide. Address, Box 27-482, care Paper Trade Journal. tf.

WANTED—2 W. & P. Pulpers, 2 Filter Presses and 1 Rogers Wet Machine. Address, Box 27-285, care Paper Trade Journal. tf.

CAMERON SLITTER—Wanted, 50" or 60" machine; must be in A-1 condition. In reply give all details. Address, Box 27-574, care Paper Trade Journal. O-13

WANTED—Modern Fourdrinier part, taking wire 60 to 70 ft. long and 120 to 126 inches wide. Must be in good repair and reasonably priced. Address, Box 27-582, care Paper Trade Journal. O-13

WANTED—A second hand Ream Cutter 64" or more. Address, Straubel Paper Company, Green Bay, Wis. O-20

WANTED—Used Cameron Slitting and Rewinding machine, 42" or 52" width. Must be good condition. Address, Box 27-622, care Paper Trade Journal. O-13

WANTED—50" or 51" Hamblet Diagonal Cutter. Address, Box 27-623, care Paper Trade Journal. O-13

WANTED—Embossing machines with and without printing attachment, also the engraved embossed rolls for embossing and printing glazed and fancy papers. Address, Box 27-624, care Paper Trade Journal. O-13, 27; N-10

WANTED—Moore & White Drum Winder to take care of 76" trim to rewind rolls up to 45" diameter. Address, Box 27-626, care Paper Trade Journal. O-13

FOR SALE

2—BONNOT 6' DIA. X 60' ROTARY DRYERS OR KILNS, ALSO NEW SPARE PARTS; WILL BE SACRIFICED FOR QUICK SALE. STEIN-BRILL CORP., 25 CHURCH STREET, NEW YORK CITY. O-20

FOR SALE—Second-hand 1200 lb. wood tub N. & W. beater. In good condition. The Noble & Wood Machine Co., Hoosick Falls, N. Y tf.

FOR SALE—6 Used Jones Imperial Jordans, with bronze or steel fillings. Will sell "as is" or factory rebuilt. THE NOBLE & WOOD MACHINE CO., Hoosick Falls, N. Y. tf.

FOR SALE—Paper mill. Can be put in first-class running condition at small expense. An abundance of clear water. Excellent shipping facilities. Would make a dandy strawboard mill. Can be purchased at a bargain. For full particulars address Box 27-608, care Paper Trade Journal. O-13

FOR SALE—Two Friction Calenders, 34 inch rolls, made by Textile Finishing Machinery Co. Cheap if taken at once. Address, Box 27-625, care Paper Trade Journal. O-13, 27; N-10

2000 lbs. Noble & Wood Beater, 3 Dillon 1400 lbs., 2 Jones 1400 lbs., to be equipped with new Shlick Super-Speed tubs for 100 to 120 feet circulation per minute, for two to three times the output. Leo Shlick Engineering Co., 314 Beacon St., Boston, Mass. Builders of the Three-In-One Super-Speed Beater and the Precision Beater. All sizes. O-13

FOR SALE

FOR SALE—Barber roll making machine, practically new. Address, Box 27-629, care Paper Trade Journal. O-27

FOR SALE—PAPER MILL. READY TO OPERATE. EXCELLENT WATER POWER. GOOD SHIPPING FACILITIES. LOW FREIGHT RATE TO NEW YORK CITY. CAN BE PURCHASED AT A BARGAIN. FOR PARTICULARS ADDRESS BOX 27-633, CARE PAPER TRADE JOURNAL. O-13

FOR SALE—In New Jersey—To settle an estate; a small high grade paper mill manufacturing light weight manifold typewriting and twelve to twenty pound (24 x 36 weight basis) grease proof parchment which can also be glassined and waxed. Excellent location, excess water power. An unusual opportunity. Easy terms of purchase. Address, Box 27-632, care Paper Trade Journal. N-3

Address Replies

to advertisements appearing under Box Numbers in care of

PAPER TRADE JOURNAL
10 East 39th St.,
New York, N. Y.

FOR SALE

One 134" Pusey & Jones Uniform speed reel.
One Moore & White four drum winder; drums 12" diameter by 130" face. Wind 36" diameter roll. Equipped with slitter attachment.
Above equipment used only two years.

Frank H. Davis Company,
175 Richdale Avenue,
Cambridge, Mass.

FOR SALE

1—72" Hamblet Single Cutter with 24 roll back stand.
1—84" Beloit heavy duty duplex.
1—84" Black-Clawson heavy duty duplex, with duplex slitter.
1—52" Moore & White Cutter with Moore & White Layboy and Backstands.
1—48" Moore & White Cutter with Moore & White Layboy and Backstands.
1—42" Moore & White Cutter with Moore & White Layboy and Backstands.
1—60" Hamblet Cutter with 10 roll Backstands.
1—110" Moore & White Cutter with Moore & White Layboy and Backstands.
1—82" Heavy duty Hamblet Single Cutter with 24 roll Backstands.
2—58" Moore & White Single Cutters.
4—54" Moore & White Single Cutters.
6—48" Moore & White Single Cutters.
1—57" Hamblet Duplex Cutter, Heavy Duty.

The Shartle Brothers Machine Co.,
Middletown, Ohio tf.

MACHINERY FOR SALE

BOILERS

1—500 HP Freeman water tube 175 lb. pressure
1—360 HP Casey Hedges water tube 175 lb. pressure
1—360 HP John O'Brien water tube 175 lb. pressure
Above boilers can be sold very reasonable.

OIL ENGINES

1—165 HP Type Y Fairbanks Morse
1—150 HP Type Y Fairbanks Morse
1—200 HP Type Y Fairbanks Morse

GENERATORS

1—60 KW 2200 volt 2 phase 60 cycle
1—33 KW 125 volt D. C. Direct connected to Watertown horizontal steam engine.

COMPRESSORS

1—1150 Cu. ft. 115 lb. air pressure Ingersoll-Rand type 10 steam compressor.

MOTORS

1—324 HP 440 volt 200 RPM Syn. motor less shaft
2—100 HP 440 volt 1740 RPM Sq. cage G. E. Motors
1—150 HP 440 volt 695 RPM Sq. cage G. E. Motor
2— 75 HP 440 volt 1740 RPM Sq. cage Whse. Motors
3— 25 HP 440 volt 865 RPM Sq. cage Whse. Motors
2— 20 HP 440 volt 1160 RPM Sq. cage Whse. Motors

EMPIRE ELECTRIC MACHINERY COMPANY,
1033 Joplin Street, Joplin, Missouri

FOR SALE

4—250 HP "Bass" Vertical Water Tube Hand Fired Boilers, 150 lb. pressure
1—30 x 48 Heavy Duty Allis Engine
1—28 x 54 Heavy Duty H. O. R. Engine
1—200 KW. 240 V. Generator D. C. to 20 x 36 Reliance Engine
1—90 KW. 250 V. Generator D. C. to Heavy Duty Ball Engine.
1—16 - 18¼ & 12¼ x 16 I. R. Compressor
This equipment can now be inspected under power at Marion (Ohio) Works

E. J. PAQUE,
THE POLLAK STEEL CO.,
Temple Bar Bldg.,
CINCINNATI, OHIO O-13

Classified Advertising Brings Results

WANTED

To lease or buy small one-machine paper mill which must be complete as to paper making equipment for manufacture of specialties. Machine must trim between 46 and 68 inches.

Address, Box 27-628, care Paper Trade Journal. tf.

Classified Advertising Brings Results

This— department offers you an opportunity to dispose of your surplus material, equipment and supplies.

Take— advantage of it by placing an advertisement in these columns containing a list of what you have to offer.

FOR SALE

1—72" Model 10 Cameron.

11—Dryers 48" x 110".

60" trim Black-Clawson Fourdrinier machine.

Several White cedar stuff chests, A-1 shape.

1—48"—3 cylinder machine.

1—70"—2 cylinder machine.

Several Chippers.

Four deck Beloit frames. These are modern and extra heavy.

One Ryther & Pringle Multiple Saw Slasher. Will cut 32".

One Farrel Roll Grinder.

One No. 2 Lannoye Pulper.

One 61" Holyoke Super-Calender.

The Shartle Brothers Machine Company
Middletown, Ohio tf.

HEADQUARTERS

For Good Used Machinery

ROTARY DRYERS AND KILNS
6—4' x 30' American Process.
2—6' x 60'.
1—6' x 100'.
1—8' x 125'.

PULPER MIXERS
1—W. & P. size 17-200 gals.
Also several smaller sizes.

TUBE AND ROD MILLS
1—3' 6" x 13' Allis Chalmers.
1—4' x 16' Schmidt.
5—5' x 22' Allis Chalmers.
7—5' 6" x 22' Schmidt.
1—6' x 22' Gates.

SULPHUR BURNERS
1—3' x 5' Glens Falls.
4—4' x 16' Glens Falls.
4—4' x 20' Glens Falls.

EVAPORATORS
1—Stokes Triple Effect, 1,050 sq. ft.
1—Scott Triple Effect, 1,250 sq. ft.
1—Swenson Triple Effect, 1,750 sq. ft.
3—Swenson Triple Effect, 3,300 sq. ft.

ROTARY FILTERS
2—6' x 4' Oliver.
2—6' x 6' Oliver.
2—6' x 6' Oliver, Acid Proof.
1—8' x 8' Oliver, Acid Proof.

SEND US YOUR INQUIRIES
WE BUY YOUR IDLE EQUIPMENT

CONSOLIDATED PRODUCTS COMPANY, INC.
15 PARK ROW NEW YORK, N. Y.
Barclay 0868

FOR SALE

6—Dayton Beater and Hoist Iron tub Beaters, rolls 56 x 50.

1—Wood tub Beater, practically new. Roll 70 x 66. Made by Emerson Mfg. Co.

1—Heavy duty Beloit 114" Paster.

4—Jones Washers. Iron tubs. Rolls 67 x 60. Good shape.

1—Dayton Beater and Hoist Iron tub Beater. A-1. Rolls 64" diameter, 54" face.

1—Breaker Roll 64" diameter by 54" face.

1—Downingtown Iron tub Beater with Brownell Buehler perforated back fall. Rebuilt for immediate shipment. Roll 44" x 44".

The Shartle Brothers Machine Co.
Middletown, Ohio tf.

WANTED

Fourdrinier Machine with drive but without dryers; to make up to 68" trimmed width.

State age, price, location and specifications, also maximum speed it has run.

Address, Box 27-627, care Paper Trade Journal

FOR SALE

We offer for sale the mill of the former Saratoga County Paper Company, located at Ballston Spa, New York, or the contents of said mill, consisting of excellent 68" trim Sandy Hill Board machine; four 1000 lb. beaters; Number 4 Nash Hytor Pump; 72" Hamblet Rotary Cutter; Variable speed engine, etc.

Address:

Gibbs-Brower Company, Inc.

Paper and Pulp Mill Brokers

261 Broadway, New York City—Telephone Barclay 8020

166 W. Jackson St., Chicago, Ill.—Telephone Harrison 0151

OUR MOTTO—"Service First"

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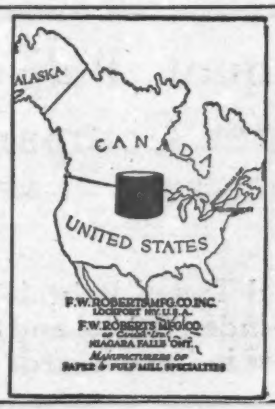

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Of PAPER TRADE JOURNAL, published weekly at East Stroudsburg, Pa., for Oct. 1. 1927.
State of New York,
County of New York, ss.

Before me, a Notary Public in and for the State and county aforesaid, personally appeared Geo. S. Macdonald, who, having been duly sworn according to law, deposes and says that he is the publisher of the PAPER TRADE JOURNAL and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management (and if a daily paper, the circulation), etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, embodied in section 411, Postal Laws and Regulations, printed on the reverse of this form, to wit:

1. That the names and addresses of the publisher, editor, managing editor, and business managers are: Publisher, Geo. S. Macdonald, 10 East 39th St., New York, N. Y.; Editor, H. J. Berger, 10 East 39th St., New York, N. Y.; Managing Editor, H. J. Berger, 10 East 39th St., New York, N. Y.; Business Manager, Geo. S. Macdonald, 10 East 39th St., New York, N. Y.

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GEO. S. MACDONALD,
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Sworn to and subscribed before me this 3rd day of October, 1927.
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My commission expires March 30, 1928.

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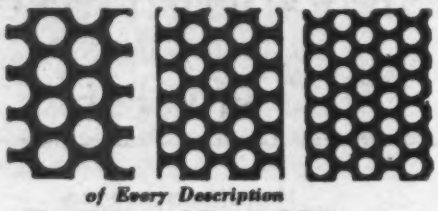

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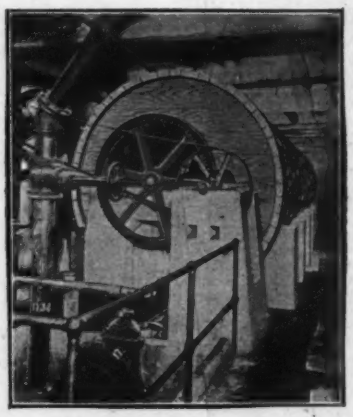

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